Changing the Culture of Document Management in Georgia Government: One Community of Practice at a Time

Georgia Digital Academy
Pilot Session on Document Management
Spring 2002

F I N A L R E P O R T

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Table 1

Georgia Digital Academy

Participating Agencies

1. Board of Pardons and Paroles
2. Criminal Justice Coordinating Council
3. Department of Administrative Services
4. Department of Audits
5. Department of Corrections
6. Department of Human Resources/Office of Information Technology
7. Department of Human Resources/Public Health/Vital Records
8. Department of Motor Vehicle Safety
9. Department of Revenue
10. Georgia Bureau of Investigation
11. Georgia State Financing & Investment
12. Office of School Readiness
13. Secretary of State/Archives
14. State Board of Workers' Compensation

1. ABSTRACT

This final report on the pilot session of the Georgia Digital Academy (GDA) on Document Management is submitted for review by the Director of the Technology Office, his designee, and all other appropriate parties of the Georgia Technology Authority. The content for the report was selected from the vast amount of information researched, collected, and reviewed by the 26 participants of the GDA.

The feedback obtained from the review will be used in the formulation of the agenda for the first Document Management Community of Practice (DMCP), also known as a Users Group. Preliminary plans for the DMCP have already been initiated, with the first meeting being scheduled to convene in July.

2. SUMMARY

Over a period of ten weeks (March 20 – May 22, 2002), technical and business representatives from 13 diverse agencies (small, medium, and large) across the State of Georgia worked diligently to address the issue of document management technology and its effective, efficient use. The primary goals of this effort were twofold: (1) foster collaboration among State agencies and (2) recommend standards, guidelines, and best practices for document management that can be deployed on an enterprise level. The approach used to address these goals was the GDA, a concept that had been successfully implemented in a number of states, most notably Washington.

A brief summary of the accomplishments of the GDA is presented in this final report:

- Development of a consensus definition for the Document Management concept
- Formulation of a set of recommended guidelines and best practices for four key areas of document management: *digital imaging*, *eForms*, *workflow*, and *data exchange*
- Establishment of preliminary plans for the formulation of the DMCP
- Development of a set of "roadmaps" that may be used by agencies in the initiation of document management projects

The body of the report is organized into the following major sections:

- **Introduction** – Gives an overview of the purpose of the GDA, including the goals, participants, and activities
- **Methods and Procedures** – Describes how the participants executed their functions
- **Results and Discussion** – Presents the definition and descriptions of the areas of document management undertaken by the participants, including specific information about the recommended guidelines, best practices, and roadmaps that they formulated. Information is also included on the application of the results to specific case study projects
- **A Peek into the Future** – Outlines the key points to be considered in the formulation of a work plan for the DMCP agenda
- **Conclusions** – Specifies the major findings and "lessons learned" from the GDA pilot experience
- **Recommendations** – States the primary suggestions for how the results of the GDA pilot may be used to advance the deployment of standards, best practices, and guidelines for document management on an enterprise level
- **Terms and Definitions** – Contains brief explanations of key words and acronyms used in the body of the final report
- **Appendices** – Contains the major source materials referred to in the final report

3. INTRODUCTION

A major challenge of the 21st century is how to make state government more responsive to the needs of its citizens. One of the primary ways to meet this challenge is the effective, efficient use of information technology (IT) resources.

An approach that has yielded substantial benefits in other states, most notably Washington, is the fostering of relationships among government agencies by providing a means for them to come together to solve common problems. Thus, rather than being concerned for their *individual needs only*, agencies are beginning to view each other as *partners* in the ever-changing world of IT and are, as a result, becoming advocates for cultural change.

The GDA is an example of this movement toward collaboration among state government agencies. The GDA serves as the catalyst for agencies to come together to develop solutions to common technical and business problems. For its pilot session, the problem undertaken was how to address the persistent and expensive concern of document management. Currently, no State standards exist for how to more efficiently manage the multiplicity of paper and electronic documents generated, stored, and manipulated by agencies.

3.1 Goals of the Georgia Digital Academy

Specifically, the goals of the GDA were to:

- facilitate collaboration and education among State agencies
- accelerate the identification and standardization of best practices throughout State government
- develop solutions to meet the business requirements of State agencies

In achieving these goals, participants from 13 agencies took the initial step toward becoming a DMCP or Users Group. *(See Table 1 for the participating agencies information.)* They have identified best practices and recommended guidelines for four areas of document management:

- Digital Imaging
- Electronic Forms (eForms)
- Workflow
- Data Exchange

Although these four areas do not capture completely the enormous size and complexity of the document management problem domain, each represents a region of that domain. Furthermore, the areas align with priorities that are meaningful to document management in Georgia. These and other areas (e.g., content management and security) will have a high priority with the DMCP in determining enterprise best practices and guidelines for document management.

3.2 Activities of the Georgia Digital Academy

In carrying out their tasks, the participating agencies engaged in numerous activities, including but not limited to:

- identifying and examining state government processes related to document management
- identifying how technology can enable agencies to manage both electronic and paper documents more easily and efficiently
- becoming more familiar with how to select qualified vendors of document management technology
- proposing recommended guidelines and best practices for document management technology and solutions

Under the leadership of the Technology Office of the Georgia Technology Authority (GTA), experienced professors and industry experts in information technology at Southern Polytechnic State University conducted the GDA. The GDA sessions consisted of three phases:

Phase 1 - Talking the Talk: Learning critical history, terminology, and concepts

Phase 2 - Walking the Walk: Practicing important skills and actions

Phase 3 - Making It Better: Reflecting on outcomes, accomplishments and improvements

Due to the modular nature of the curriculum materials, changes in both the subject matter and sequence of instructional delivery could be efficiently tailored to the needs of the participants on an ongoing basis. In fact, changes were often made weekly and sometimes daily, depending upon the agreed-upon requirements as indicated by the detailed session evaluation feedback.[1] The combination of theory and the timely application of that theory allowed them to begin effecting change in their respective agencies almost immediately. Items that could not be resolved during the course of a particular session were recorded on the "Parking Lot" issues board for further work and consideration in subsequent sessions.[2] Several of the major issues, e.g., selection and certification of document management vendors, will become part of the work plan for the DMCP. (*See Section 6 of this report for further details*.)

Through these facilitative, interactive sessions the participants collaborated to identify potential solutions that can be shared across the State. To ensure that the agencies, their sponsors, GTA personnel, and other interested parties were kept informed about the activities and accomplishments of each session, a weekly newsletter was published on the GDA website. The website, which was developed and sponsored by Southern Polytechnic, can be found at http://tapestry.spsu.edu/GDA.

[1] A sample feedback form is found on the GDA website at http://tapestry.spsu.edu/GDA.
[2] The "Parking Lot" items will be presented in a companion GTA internal report on the GDA.

4. METHODS AND PROCEDURES

The GDA employed multiple methods and procedures for group problem solving, formulation of recommended guidelines and best practices, construction of proposals and research. Specific approaches included:

- ***Brainstorming*** - Identifying ideas rapidly; e.g., to quickly develop alternate definitions of document management
- ***Divide and Conquer*** - Decomposing a large issue into areas and assigning a subgroup to work on each area; e.g., dividing document management into digital imaging, electronic forms, workflow, and data exchange[3]
- ***Group Heuristic Development and Improvement*** - Utilizing the professional expert judgment within a subgroup to formulate appropriate new solutions or improve existing solutions in document management. For example, the subgroups provided the rationale for adopting selected standards from the Association for Information and Image Management International (AIIM) for document management that are pertinent to Georgia and the agencies
- ***Group Heuristic Evaluation*** - Utilizing the professional expert judgment within a subgroup (which might or might not be guided by identified criteria) to evaluate the appropriateness of standards, guidelines, and best practices for meeting the document management needs of the participating agencies and the State. For example, the subgroups examined the appropriateness of the World Wide Web Consortium (W3C) efforts to standardize data exchange using the eXtensible Markup Language (XML)
- ***Professional Organization Research*** - Utilizing repositories and publications of pertinent professional organizations to access relevant document management issues and solutions; e.g., AIIM standards that may be appropriate for the State
- ***Web Research*** - Utilizing search engines on the web to access issues and solutions pertinent to document management; e.g., the growing use of XML for standardizing data type definitions

The intent of using these approaches was to identify best practices and guidelines for document management as of a particular point in time (March 20 – May 22, 2002). In the spirit of continuous improvement, the results of the work groups should be reexamined, as necessary, to continually update such practices and guidelines.

[3] Data exchange is closely related to the area of "interoperability" as defined by the GTA.

5. RESULTS AND DISCUSSION

The participants in the GDA undertook efforts to address best practices and guidelines for document management hardware, software and system architecture. In doing so, it became readily apparent that the term *document management* is not well defined. In fact, there are probably as many definitions as there are practitioners engaged in using it. Thus, one of the major tasks of the GDA was to formulate a common ("working") definition of document management that the participants could apply in their groups.

Definition of Document Management

After multiple brainstorming sessions and group evaluations conducted over several weeks, the GDA reached consensus on the following definition:

> ***Document Management*** *- The coordinated activities that systematically direct and manage [control] an organization's information and its supporting media.*

This definition consists of two features that were attractive to the GDA. First, it focuses on ***taking action with information***. The GDA participants believe that good information is the basis of good government, especially electronic government (commonly known as e-government). Government plays an active role in society, and the value of that role increases whenever actions are based on good information. Second, the definition is consistent with ***existing efforts of standardization and best practices development*** in document management, as found in AIIM's *Implementation Guidelines and Standards Associated with Web-Based Document Management Technologies.*[4] Such consistency broadens and deepens the GDA's connections with the larger document management community and is, thus, fortified by this validation of its efforts.

5.2 Areas of Document Management

Although the GDA's definition of document management makes the concept more understandable, it remains a rather large whole. For example, the definition includes all the organization's information and the media used to contain it – an extensive domain. To make progress on document management more tractable, therefore, it was divided into four constituent areas, as shown in Table 2. A work group was then assigned to research the existing standards, guidelines, and best practices for each respective area. While the areas do not capture completely the enormous size and complexity of the document management problem domain, each represents a region of that domain that is important to the State.

[4] This resource is available at http://stnds.aiim.wegov2.com/.

Table 2

Areas of Document Management

Work Group Assignments

Areas of Document Management	Role of the GDA	Focus
Digital Imaging	Ownership (along with Users Group)	Digitizing, indexing, storing, and retrieving image (unstructured) data
eForms	Significant Stakeholder	Entering of data (structured) online into a database
Workflow	Shared Ownership (with all State agencies)	Moving information through a task
Data Exchange[5]	Provision of Suggestions for Requirements and Usage (ownership by GTA)	Moving information through and across State agencies

The **Role of the GDA** column refers primarily to the influence that the GDA has on the document management area. As can be seen, the GDA has the most influence on Digital Imaging, intermediate influence on eForms and Workflow, and the least influence on Data Exchange. (Interoperability is under the auspices of the GTA, specifically the Portal initiative.)

The **Focus** column shows an increasing level of data structuring and specificity - from Digital Imaging, which deals largely with unstructured data - to Data Exchange, where data codes, formats, interfaces, conversions, and transfer protocols must be clearly, completely, and consistently defined. eForms and Workflow are intermediate points on this continuum.

[5] The Data Exchange group started out as the "Document Exchange" group. After a week or two, it became apparent that they should work at the more general, data exchange level. The GTA has also pointed out that this area of document management (data exchange) is closest to the area of "interoperability" that falls within the GTA charter.

5.3 Recommended Enterprise Guidelines and Best Practices

In an effort to align their output with the format of existing GTA standards, the work groups used the *Information Technology Standards - State of Georgia* document as a basic template for presentation of the results for each of the document management areas. (*See* http://www.gagta.com/portal/pstandards.pdf*)*

The GDA's aim was to recommend enterprise guidelines and best practices for document management. Some of the guidelines are existing standards, e.g., available from AIIM, while others are best practices as proposed by the GDA. Since the GTA process and structure for standardization had not been established completely at the time of the pilot session, the GDA's recommendations of guidelines and best practices were postured as those having the highest priority for future consideration as standards.

5.3.1 Digital Imaging

5.3.1.1 Technology: Software

5.3.1.2 Category: Document Management – Digital Imaging

5.3.1.3 Definition: Digital Imaging is the process of converting physical documents into digitally encoded images.

5.3.1.4 Area of Document Citation or URL: All URLs were active as of May 2002.

Georgia Secretary of State Records Management Services
http://www.sos.state.ga.us/archives/rms/grms.htm

Information regarding ODMA Standard
http://www.infonuovo.com/odma

Information regarding Industry Standards
http://msdn.microsoft.com/library

TWAIN Interface Standard Information
http://www.twain.org

Association for Information and Image Management
http://www.aiim.org/

ISIS (Interface Standards for Scanners)
http://www.pixtran.com

5.3.1.5 Need for Standardization: Standardized digital imaging applications address the need for consistency and accountability in government record keeping. Digital imaging initiatives can

range from making a single CD-ROM accessible at one workstation to launching a major interagency effort to create and share a distributed digital library.

Regardless of the size and scope of an imaging system, however, it must be supported by:

- hardware and software
- policies and procedures governing the interrelationships among the various functions (e.g., conversion and access)
- protocols for communications and distribution
- personnel whose training and capability are appropriate for the tasks to be supported
- adherence to best practices, recommended guidelines, and existing standards

Adherence to best practices, guidelines, and existing technical standards:

- ensures that consistency and simplification are achieved among end users, developers, and manufacturers
- streamlines open architecture-based systems that can adapt to changes in technology and promote vendor independence
- facilitates data exchange and reuse across agencies
- provides for the protection and integrity of records as evidence

5.3.1.6 Recommended Best Practice(s): Agencies should follow a system design approach that permits future component upgrades with minimal degradation of system functionality. One key factor in achieving open systems architecture is the adoption of non-proprietary standards.

Thus, document management systems should consider the following:

- *ISIS (Image and Scanner Interface Specification)* is used predominately for large applications. It is the basis of an industry standard (ANSI/AIIM MS61-1996) as well as a de facto imaging standard. Through ISIS support, users can be confident that the hardware they have purchased will work with a wide variety of software applications. Developers can be certain that imaging applications they create will support a wide variety of scanners.
- *TWAIN (Technology Without An Important Name)* enables the interoperability of software from different vendors. TWAIN is used predominately for small- to medium-scale applications. The software, developed by a work group of major scanner manufacturers and scanning software developers, is now an industry standard.

Common Attributes of ISIS and TWAIN

Currently, both ISIS and TWAIN enjoy wide support in the marketplace. When viewed solely as vehicles for the acquisition of images from scanners, both are technologies with similar capabilities:

- Both standards can be extended to embrace new scanner features
- Both standards provide a freely available specification
- Both standards are supported by large, stable companies within the imaging and personal computer communities

- Both standards are expected to benefit from wide user and developer support for many years to come

Practical Differences between ISIS and TWAIN

Differences between ISIS and TWAIN center on the:

- Design intent and architectural features
- Availability of commercial quality products
- Level of available support
- ISIS driver certification program
- Performance that can be obtained from applications
- Cost of implementation using the two standards

- The *Open Document Management API (ODMA)* simplifies integration and interoperability of standards and desktop applications with document management systems. The use of ODMA desktop applications allows documents to be accessed and manipulated as easily as if they were residing in a locally accessible file system.
- The *Messaging Application Programming Interface (MAPI)* subsystem acts as a central clearinghouse to unify the various messaging systems and shield clients from their differences. It is a messaging architecture that enables multiple applications to interact with multiple messaging systems seamlessly across a variety of hardware platforms.
- The open architecture *Relational Database Management System (RDBMS)* serves as the management tool for the image index. When information is stored in a medium that is not eye-readable, complete and accurate indexes and rapid access to stored images are essential.
- The *Tagged Image File Format (TIFF)* is a non-proprietary historical image storage format for the storage of structured information. The structure and content of TIFF images are unalterable once the images are stored. TIFF versions 4 and 6 are recommended for use in State imaging applications because they collect the file folder header format information needed to document the trustworthiness and authenticity of public records.[6]
- *User Access Security and Audit Trails* provide access control and transaction tracking of **who**, **what**, **when**, and **why** of all actions or events related to digital images. The trails are key components needed to show a responsible chain of custody in the event of litigation. A transaction log documents the creator, recipient, content, date of creation, date of revision, date of sending, and all alterations and authorizations connected to an individual record.[7]

5.3.1.7 Approved Product(s): The GDA (via the DMCP) will continually review products for inclusion under the recommended guidelines.

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[6] AIIM MS 53, File Format for Storage and Exchange of Images or Bi-Level File Format, Part 1, and Georgia Archives "Electronic Document Imaging System Guidelines" 1996.

[7] Georgia Archives "Electronic Records Management: Checklist of Requirements" 2002.

5.3.1.8 Justification: Imaging applications can greatly enhance the accessibility and distribution of information throughout an agency. Such systems also allow accurate tracking of information for audit purposes. However, digital imaging systems cannot solve access problems stemming from inefficient or poorly planned processes and practices. In fact, imaging technology may actually exacerbate existing deficiencies. Maximum benefits are realized when existing workflow procedures are analyzed and adapted to take advantage of the new technology, rather than simply automating existing processes. Managers, in consultation with qualified records managers, should analyze the existing records systems, practices, workflow, and indexes. Any discovered deficiencies should be corrected before implementing an imaging system.

5.3.1.9 Technical and Implementation Considerations: Recommended guidelines for digital imaging applications should:

- Take into account, when selecting software, that the Total Cost of Ownership (TCO) for client desktop software is generally more expensive than web-enabled client software, when the imaging system is supporting large numbers of users over a long period of time
- Allow an agency to upgrade its databases and operating systems without restriction from the vendor solution. Many solutions will require custom interfaces and/or middleware. It is important to consider what is actually covered: a) impact of environment upgrade/changes; b) vendor support (e.g., middleware and third-party software); and c) scalability
- Allow users to print to local and/or network printers as configured within their particular workstation environment
- Perform full text searches on electronic data files (e.g., Microsoft Office)
- Log and manage all industry standard file formats including, but not limited to: ASCII, TXT, RTF, WAV, MPEG, AVI, WPD, PDF, MPP, VSD, PSD, HTM, HTML, ZIP, DAT, CGI, RAM, MPE, XML, XQL. XSL, MDB, VDS, DOC, XLS
- Allow for scalability
- Perform searches across multiple repositories that run on the same platform
- Offer both a client desktop version of software and a web-enabled client that can be operated using an industry standard web browser. The vendor should provide a detailed list of differences between its client software and its web-based version of the software solution, addressing TCO comparisons
- Be able to perform OCR on scanned documents
- Provide database administrators full access to manage databases, including: start-up, quiess, own, backup, restore, and re-organize for operating efficiency. The vendor should clearly state what functions, if any, an administrator would not be able to perform. Any vendor costs for any functions that the DBA's are not allowed to perform should be identified
- Include security features that control user, group, and departmental access security levels as part of the out-of-box functionality

- Be able to create distinctly separate repositories with different keys/indexes. These repositories should be autonomous in their operation but provide the ability for applications to search other repositories
- Provide capability to search and retrieve information from external databases, client server programs, mainframe programs and like repositories
- Provide robust and easily interpreted status reports. Status reporting capabilities should include graphical displays of color and descriptive information
- Be comprehensive and use mainly out-of-box software and minimal middleware and/or third party products
- Consider the ability to "redact" the document to meet the terms of the applicable open records act legislation. Legally "redacting" is the marking out of any sensitive data BEFORE a requested image is printed to insure that confidential data cannot be discovered from the document. Redaction should not result in the alteration of the agency's record, only the copy provided upon request
- Consider retention periods for document groupings to facilitate off-line storage or destruction processes required for long-term maintenance of documents. (The Georgia Archives can assist in providing copies of or developing new records retention guidelines.)
- Provide general image enhancement features; e.g., cut, paste, addition of notes, highlights, clean image, sharpen image, and orientation
- Be able to export data to other applications
- Log and track Internet e-mail that is specifically entered into the repository by the user
- Organize groups of documents within the repository based on custom indexes (such as document types and forms)
- Support long file names and descriptions for documents and folders (in the repository)
- Contain a time-based alarm/reminder and capacity trigger capability (in the repository)
- Allow users to search the document repository from within other applications (e.g., MS Word, Excel, Explorer, and Novell GroupWise)
- Save the document generated by applications (e.g., MS Word, Excel, and GroupWise) directly into the repository
- Contain advanced searching capabilities (e.g., "fuzzy," natural language, keyword, Boolean, and wizards)
- Track the check-in/check-out of documents or groups of documents, with the capability to set timers or alarms for all documents checked out
- Allow the administrator to limit users' access based on their security levels
- Have the capability to use client/server HLLAPI (High Level Language Application Programming Interface) communication to enable the transfer of data from one application to a mainframe application at the screen level

- Consider long-term support costs (i.e., ongoing maintenance, upgrades, storage, and support personnel)

5.3.1.10 Review Cycle: Semi-annually

5.3.1.11 Timeline: Revision date – June 24, 2002

5.3.1.12 Effective Date: The recommended guidelines are in draft form and under review**.**

5.3.1.13 Review History:

Date	Sections Reviewed/Modified	Reviewer	Comments

5.3.2 Electronic Forms (eForms)

5.3.2.1 Technology: Software

5.3.2.2 Category: Document Management – eForms

5.3.2.3 Definition: Electronic Forms (eForms) is a web-based (paperless) solution for allowing common business forms to be completed online and data captured for review, approval, and/or further processing. The technology does not include static presentation of forms to the web for download and manual completion.

5.3.2.4 Area of Document Citation or URL: All URLs were active as of May 2002.

- **Citations concerning eForms Guidelines**

Electronic Forms Systems Analysis And Design

August 1993 Document No. KMP-92-6-R U.S. General Services Administration Information Resources Management Service available at
http://www.law.uh.edu/cdrom/USGMP_oct98/ZDATA/ITPUBS/Efsadg.pdf

Washington State Web Presentation Guidelines for Digital Government
http://www.wa.gov/dis/portfolio/webguidelines.htm

Checklist of Checkpoints for Web Content Accessibility Guidelines 1.0
http://www.w3.org/TR/WCAG10/full-checklist.html

Model Privacy Notice
http://www.wa.gov/dis/architecture/FinalPrivacyModel.htm

- **The Future of eForms**

Xforms-The Next Generation of Web Forms
http://www.w3.org/MarkUp/Forms

W3C Web Accessibility Initiative
http://www.w3.org/Talks/WAI-Intro
http://www.w3.org/TR/2002/WD-xforms-2002118/slice.html

- **Security and eForms**

Electronic Forms And Authentication Practices

U. S. General Services Administration Information Resources Management Service available at
http://www.law.uh.edu/cdrom/USGMP_oct98/ZDATA/ITPUBS/Eform.pdf

Auditing & Electronic Records Test Considerations
http://www.wa.gov/dis/academy/AuditElectronicRecordsPracticesV1.7.doc

- **Archive Considerations**

Electronic Document Imaging Systems Guidelines (section 1)
http://www.sos.state.ga.us/archives/rms/manuals/edisg.htm

Georgia Records Act
http://www.sos.state.ga.us/archives/rms/gra.htm
http://www.sos.state.ga.us/archives/rms/src/said.htm

5.3.2.5 Need for Standardization: The use of the Internet has exploded over the past five years; and government is increasingly being pressured to facilitate citizen interaction through the web, as opposed to standing in long lines for face-to-face interactions. The State is made up of hundreds of separate agencies and entities with various legal requirements and authority. As these entities take steps to provide web-based interactions for constituents, the lack of recommended guidelines and standards could result in a confusing array of web sites and varying levels of technological requirements (hardware/software) in order to perform a web transaction.

Applying guidelines and standards to electronic forms will result in eForms that are easier to navigate within a single agency web site as well as across agency sites. Citizens and employees alike will find navigating web sites easier and conducting transactions quicker due to this similarity. With eForms recommended guidelines, it will be possible to share solutions for specific data collection requirements between agencies through a central repository. The use of guidelines and standards for eForms will allow for the eForms design skill set to be easily transferred from one agency to another without additional training.

Web presentation guidelines that prescribe a common look and feel to agency web sites are recommended. One suggested structure from Washington State breaks the structure of web sites into the following categories:

- Top Level Presentation (TLP) – the main home page for a State agency
- Mid Level Presentation (MLP) – the main page for a:
  - Program Area
  - Division
  - Topic Area
- Page Level Presentation (PLP) – the main content or useful information (including reports and executive summaries)

Style guides for state agencies would provide guidelines/roadmaps for developing new web sites and/or pages to ensure a coordinated and uniform approach. The style guide would address common color schemas, background appearance, banner location, location of navigation buttons, common self-help/email feedback, similar index structure or site map, image size and resolution, and common computer monitor settings.

The Georgia web portal project includes a branding effort that will provide significant guidance in the area of style guidelines for the State's web presence. *Branding* refers to the process of defining and adopting an image for Georgia that will be incorporated into all communication media by all State agencies: e.g., websites, marketing materials, letterheads, and car tags.

5.3.2.6 Recommended Guidelines and Best Practices: eForms are defined in varying ways within today's marketplace and are still in the early stages in relation to implementation guidelines/standards. While some argue that eForms are merely online applications that replace a former manual process utilizing paper forms, others believe that it is a whole new era of computing. This variation in opinions reflects the limited standardization within the technological area. However, it appears that AIIM, a leading professional organization in document management, is addressing this subject and will publish significant findings in the near future.

While there are no international, national, or state-adopted guidelines, it is evident that future directions will include both open and scalable products. It is further anticipated that component-based development will be a major consideration. Other interrelated technologies include XML, PDF and HTML to facilitate eForms and workflow.

In addition, the Federal government has developed *guidelines and best practices for Federal electronic forms systems*. These guidelines also focus on consistency and usability of web sites. Some of the recommendations include:

- Coordination of development of electronic forms systems with the originating office, the electronic data processing systems office within the information resource management organization, and the potential users
- Use of automatic completion to the maximum extent possible when electronic forms are integrated or interfaced with a DBMS[8]
- Design of arrangement and typography of electronic forms for readability. Locations and typography should be consistent to lead the user through the form. Six-point and smaller fonts should be avoided
- Use of Helvetica type fonts to emphasize captions. Courier type fonts are preferred for data entry
- Use of upper case for titles, subtitles, and captions. In contrast, textual material should be in lower case
- Avoidance of jargon in titles subtitles and captions. The words should be simple and familiar to the user
- Avoidance of complexity. The fewer items on a form or screen the better
- Effective employment of balance, regularity, economy, sequence and unity in form and screen design:
    - *Balance* involves the ordering of the screen from left and right and bottom and top. Each portion of the screen design should have equal weight.
    - *Regularity* is the orderly spacing of rows and columns to assist the user in completing the form or screen.
    - *Economy* refers to keeping the screen simple, avoiding excessive use of text or color.

[8] DBMS – An acronym for database management system.

- *Sequencing* refers to ordering data entry in a way that is natural and logical to users of the form or screen.
- *Unity* refers to "visual hooks," such as consistent spacing between information groups to guide the user and tie the screen or form together.

Efficiency consideration should also be given to how the user can save keystrokes and time by accessing online files or databases to complete the electronic form after entering key data.

5.3.2.7 Potential Product(s): Although a variety of products have been created in the eForms area, several have been singled out for industry recognition, such as Cardiff Software, Inc.'s *Liquid Office* product offering, which was awarded "Best of AIIM" product at the recent AIIM 2001 eBusiness industry conference.

5.3.2.8 Justification: The use of forms to deliver government services is a constant. Having forms online can transform these processes through automation and streamlining of transactions. eForms make data collection faster and more accurate, decreasing the follow-up and assistance calls in response to incorrect or incomprehensible forms. eForms can be interactive and dynamic which eliminate the need for users to determine if questions are pertinent to them. Questions can be presented based on earlier answers. eForms take advantage of the increasing accessibility of the Internet and are, therefore, potentially more appealing to the user than a manual form obtained through regular processes.

5.3.2.9 Technical and Implementation Considerations: Recommended guidelines for eForms applications should take into account a number of key elements:

- **Accessibility**

For people with disabilities, the increased use of the Internet can be a double-edged sword. The web offers key resources (such as news, commerce, and education) but is sometimes inaccessible. Additionally, it is displacing traditional sources of information and interaction as many print materials are transitioned to it. Any web development must consider that users may access the web differently due to special needs or different web appliances.

- **Authentication**

Any user who completes an eForm or is presented data from a database via an eForm must be authenticated or readily identified as a specific individual. The electronic means of identification differ depending on security requirements and the level of confidence required in the identification. Some states are streamlining processes for individuals to obtain digital certificates. Digital certificates provide proof of identity for electronic transactions. They can be used for keeping information confidential as well as for electronically signing forms and documents.

- **Authorization**

Identifying an individual as a valid user is only the first step in maintaining a secure system of electronic data collection via eForms. Authenticated users will have various levels of authorization within the data system. They will have limited or no ability to view data about

other individuals or entities. This security must be part of the system that will support the use of eForms.

- **Open Records**

The use of eForms can increase access to data for a variety of different groups (e.g., the public and other agencies). Collection of such data via eForms complicates the requirements of all State agencies and entities to comply with the Open Records Act. Public data must be presented in such a way that individual privacy protections are not violated. In paper systems certain information is redacted when it is made public. In a paperless eForms system, the presentation of public data and the retrieval of records upon request must be considered prior to implementation. The system must be able to produce data collected via eForms in a legally permissible manner.

Agencies should consider whether screen shots or views must be archived specifically versus stored as data in a database. A digital signature on a database record might address this issue. Identification of data fields that can or cannot be viewed by the public prior to implementation of an eForms system would enhance the agency's ability to meet these requirements.

- **Auditing**

The ability to track both changes in data and the decisions based on that data could be more problematic when the data is electronic. An analysis of the type of information that will be collected via electronic means instead of paper must be completed in order to ensure that audit requirements can be met when the paper is no longer available. Questions surrounding the assignment of unique identifiers and the ability to track modifications, as well as the user who made the modifications, must be reviewed.

- **Routing/Workflow**

Once the data are collected via eForms, consideration of methods for presenting different sets of them to various operational groups (internal and external) is crucial. (*See the Document Management – Workflow guidelines for further details*.)

- **XML**

The use of XML as a foundation for eForms will allow for sharing of forms and the exchange of data across agencies. (*See the Data Exchange section for further details*.)

- **Common Look/Feel**

Web site development should consider overall guidelines for similar presentations across different levels of the site. Statewide adherence to these guidelines will enhance the ability of users to navigate among web sites as they interact with different state agencies.

- **Meta Data**

Meta data in web page code would allow Georgia's portal search engine to locate content on State agency web pages. Definitions and descriptions of such data vary across agencies. The

ability to organize Meta data across the different sources would require more consistency in Meta data. Meta tagging includes title, description, keyword and originator fields associated with forms. The content, format and storage of these data should be similar and meaningful across agencies in order to expedite the sharing and comparison of data.

- **Monitor Settings**

Viewing eForms or images on screen is a significant change for users accustomed to working predominantly with paper. Larger monitors that can accommodate entire forms on as few screens as possible can increase efficiency in processing the data.

- **Performance**

The eForms solution medium is the Internet. As such, development should minimize download size, render time, and display of page elements.

State agencies should answer several representative questions when considering the implementation of an eForms solution. (*See the **eForms Roadmap** in the Document Management Roadmap section for further details*.)

5.3.2.10 Emerging Trends and Architectural Directions: The W3C is currently working on development of XForms standards. XForms are structured to work across various platforms (XML, HTML, WML, etc.). This standard separates the *purpose of the form* from the *presentation of the form*. The structuring of forms as sections that describe what the form does and how the form looks allows for flexible presentation options. XForms can be utilized on a wide variety of platforms including desktop computers, handhelds, information appliances or even pagers. This is increasingly important as more devices are adapted and the idea of universal web access continues to build.

XForms are grounded in the concept that forms collect data. This data can then be expressed as XML instance data with all the incumbent standardization. Part of the XForms standard is the XForms model that describes the structure of the data to be collected as well as the purpose of the form. This decoupling of data, logic, and presentation allows for greater continuity in use and re-use across differing entities.

Based upon Georgia's recent statewide component-based development standards and the related GTA portal initiative (enterprise integration), it would be short sighted to propose guidelines/standards that are not aligned accordingly. *The Document Management Community of Practice should continue with evaluation and development of these guidelines/best practices as the technology matures, and the GTA portal project progresses.* However, once utilized, the technology and resulting solutions should be shared within a web-based eForms repository.

5.3.2.11 Review Cycle: Quarterly

5.3.2.12 Timeline: Revision date – June 24, 2002

5.3.2.13 Effective Date: The recommended guidelines are in draft form and under review**.**

5.3.2.14 Review History:

Date	Sections Reviewed/Modified	Reviewer	Comments

5.3.3 Workflow

5.3.3.1 Technology: Software

5.3.3.2 Category: Document Management – Workflow

5.3.3.3 Definition: The automation of a business process, in whole or part, during which documents, information or tasks are passed from one participant to another for action, according to a set of procedural rules.

Workflow is the tasks, procedural steps, organizations or personnel, required input and output information, and tools needed for each step in a business process. A workflow approach to analyzing and managing a business process can be combined with an object-oriented philosophy, which tends to focus on documents, data and databases.

In general, however, workflow management focuses on processes rather than documents. A number of workflow automation products allow organizations to create a workflow model and components such as online forms and then to use this product as a way to manage and enforce the consistent handling of work. For example, an insurance company could use a workflow automation application to ensure that a claim was handled consistently from initial call to final settlement. The workflow application would ensure that each person handling the claim used the correct online form and successfully completed their step before allowing the process to proceed to the next person and procedural step.

A *workflow engine* is the component in a workflow automation program that knows all the procedures, steps in a procedure, and rules for each step. The workflow engine determines whether the process is ready to move to the next step. Proponents of the workflow approach believe that task analysis and workflow modeling alone are likely to improve business operations.

With the advent of E-mail, the term workflow is popularly referred to as routing and now focuses on using E-mail components as component of the routing solutions. Most Document Management System vendors offer some type of workflow or routing technologies integrated as a part of their systems or as "add on" components. [9]

5.3.3.4 Area of Document Citation or URL: All URLs were active as of May 2002.

- **Workflow**

  Implementation Guidelines and Standards Associated with Web-Based Document Management Technologies (AIIM ARP1-2001). This document is available through AIIM's website at http://www.AIIM.org

  Kansas State Historical Society
  http://www.kshs.org/archives/digimag.htm

  Victorian Electronic Records Strategy Toolkit

[9] "Electronic Document Management and Imaging Systems Guidelines, Nevada Department of Cultural Affairs http://www.dmla.clan.lib.nv.us/docs/nsla/records/edm2.htm

http://www.prov.vic.gov.au/vers/toolkit/home.htm

Electronic Document Management and Imaging Systems Guidelines
Nevada Department of Cultural Affairs
http://dmla.clan.lib.nv.us/docs/nsla/records/edm2.htm

- **Business Process Analysis and Reengineering**

Workflow And Reengineering International Association (WARIA)

http://www.waria.org

Business Process Management Initiative (BPMI)
http://www.BPMI.org

Requirements Gathering Questionnaire
Document Management Avenue, U.K.
http://www.documentmanagement.org.uk/articles/URS%20QuestionaireH.html

- **Standards setting Organizations**

Association for Information and Image Management International (AIIM)
http://www.aiim.org

Workflow Management Coalition (WfMC)
http://www.WfMC.org

Object-Oriented Programming Systems, Languages and Applications (OOPSLA)
(a special interest group of the Association for Computing Machines (ACM))
http://oopsla.acm.org/index.html

Jeff Sutherland maintains an archive of OOPSLA documents on his personal website – one referenced here is http://www.jeffsutherland.com/oopsla97/

5.3.3.5 Need for Standardization: The number of vendors and products available to implement the automation of work processes is growing rapidly in today's business environment. Many of these products work extremely well within a very narrow area, while others provide less advanced features that are available in a wide range of platforms and database systems. Software standards provide a starting point from which to compare products that appear to make the same claims.

As technology gains more momentum, it is increasingly important for agencies to be assured that the products they invest in today will retain their value in the future. An understanding of the products' ability to be interchanged with other vendors' products allows the agency to address possible redeployment costs if future needs require moving to a different product.

Adoption of a common industry recognized standard provides a benchmark from which agencies may evaluate products to determine the ones that best meet their individual needs. Also, an industry standard has the potential to reduce the cost of potential vendors in providing proposals,

because a standards compliance document would only need to be created once for each product, and then updated as products or the standards change. Many vendors may already have written a standards compliance document for a business customer that could be supplied at little or no cost to the vendor.

5.3.3.6 Recommended Best Practices: Prior to selecting a workflow management system, a records and workflow analysis should be conducted to determine and document existing and planned agency information needs. The examination of current workflow patterns and records is the crucial first step in determining the need for a workflow management system. A records analysis assesses existing operations to determine what records are best suited for automation. A workflow analysis assesses the processes of records creation, access, and retrieval to determine areas where reengineering can improve operational efficiency.[10]

Agencies planning workflow projects should read and conform to the recommended practices of the Association for Information and Image Management International (AIIM), particularly the "Implementation Guidelines and Standards Associated with Web-Based Document Management Technologies" (AIIM ARP1-2001). This document is available through AIIM's website at http://www.AIIM.org.

In accordance with those guidelines, workflow software selected for projects should conform to standards published by the Workflow Management Coalition (WfMC) to ensure interoperability with other systems. These standards are available through the WfMC's website at http://www.WfMC.org.

5.3.3.7 Approved Product(s): The GDA (via the DMCP) will continually review products for inclusion under the recommended guidelines and best practices.

Although no products are specifically recommended, vendors should substantiate the level of compliance of their products with the interoperability guidelines established by the Workflow Management Coalition (WfMC) to ensure interoperability with other (future) systems. These standards are available through the WfMC's website at http://www.WfMC.org.

5.3.3.8 Justification: Workflow exists in every organization, in the form of standard operating procedures. Its benefits are both tangible and intangible. The ***tangible*** benefits include (1) Reduced operating costs, (2) Improved productivity, and (3) Faster processing times. The ***intangible*** benefits include (1) Improved services, conditions for employees, change management, communications, planning and deployment capability; (2) Higher quality, and (3) Enhanced decision support.

Without assessing current and proposed business processes, it is impossible to accurately define the scope of the project necessary for development of a project charter. By representing these processes as tasks and activities in a workflow model, it becomes possible to evaluate the business needs that are the basis for the project charter.

[10]Adapted from Kansas http://www.kshs.org/archives/digimag.htm

5.3.3.9 Technical and Implementation Considerations: Agencies and organizations undertaking development of workflow-related projects should ensure that they understand and comply with all applicable State and federal legal requirements. Most existing standards are based on the work of the WfMC, a standards setting body of industry providers and business partners working to ensure that workflow automation products are able to inter-operate. These standards are very thorough regarding two-tier (client/server) systems, but may not adequately address the needs of users who are expected to work in an environment with only periodic or occasional network connections.

For agencies needing to provide a workflow solution for users that are not constantly connected to the workflow engine, there is a model provided by the OOPSLA special interest group of the ACM. The http://jeffsutherland.com/oopsla97/santanu.html provides good questions and information regarding the formation of an Internet-based workflow RFP (Request For Proposal).

There are considerations that need to be made by the agency when comparing products against these benchmarks, particularly when specific areas do not comply with the standards – either providing less or more functionality than required.

- If a product meets a specific standard area, it allows for a generally accepted method of performance, as though functionality might be limited.

- If a product does not meet the standard in a specific area, it indicates that the agency will be required to meet minimum needs in that area through other means (e.g., other products or manual processes), if that area of functionality is currently needed or becomes needed in the future.

- If a product exceeds the standard, the agency may realize a savings on current development costs, if the features exceeding the standard are needed. Agencies should be aware that the use of these proprietary enhancements beyond the standards may require that they redevelop those features in the future if they transition to a different vendor's product.

The proper identification of the desired workflow to be implemented is essential to effectively fulfilling the agency's business needs requirements. Although it may be tempting to merely replicate existing processes in an automated environment, a thorough assessment of the desired business outcomes is essential to maximizing the benefits that workflow automation can provide.

Although this level of analysis is beyond the scope of this document, useful guidance from the Kansas and Victoria, Australia, sources is summarized in the **Workflow Roadmap**. *(See the **Document Management Roadmap** section for further details.)* The "Area of Document Citation or URL" section of this document also provides links to useful and educational materials regarding business process analysis and reengineering.

5.3.3.10 Emerging Trends and Architectural Directions: There appears to be a current trend in the business world to incorporate workflow and document management into content management systems.

Standards for the application of workflow systems are continually being developed and expanded. It is recommended that they be monitored to determine if any single standard emerges for workflow applications in disconnected environments.

5.3.3.11 Review Cycle: Semi-annually

5.3.3.12 Timeline: Revision date – June 24, 2002

5.3.3.13 Effective Date: The recommended guidelines are in draft form and under review.

5.3.3.14 Review History:

Date	Sections Reviewed/Modified	Reviewer	Comments

5.3.4 Data Exchange

Originally named the "Document Exchange" group, after some research the group recommended a more general name and scope for "Data Exchange". Critical points in the rationale for this change include:

- Comparing document exchange and data exchange with respect to their relative importance in document management, the group found that data exchange was more important.
- Of all the cross-agency issues in document management, developing and implementing consistent data type definitions, e.g., for a citizen's name, was evaluated by the whole GDA as being in the category of top priority issues. This issue resides more within the scope of the data exchange area rather than document exchange.
- Currently, data exchange is accomplished between the agencies in large part through the use of "flat files" that are output from one agency's system and read into another agency's system. Although this has been made to work in many instances, it is far from ideal and optimal. Along with the GTA, the GDA has concluded a better and more systematic approach should be found.
- Approaches based on technology and techniques related to XML (Extensible Mark-up Language) emerged in the group's research as providing **the** future solution in the area of data exchange.
- The data exchange area of document management is most closely matched with the GTA area of "interoperability". Furthermore, the GTA is largely relying on XML-related approaches for interoperability, which is convergent with the findings and conclusions from the data exchange work group's research.

In conclusion of the research, the workgroup decided to focus on data exchange. Furthermore, it has identified existing best practices and guidelines to the exclusion of past approaches to data exchange. The past methods, e.g., flat files, were excluded, not because the workgroup concluded that they are wrong or totally unworkable, but because it is time to do better at data exchange. The workgroup, therefore, encourage the GTA to establish new standards and technology for data exchange and agree that XML is the approach to do so.

At the same time, the data exchange workgroup encourage the GTA to develop effective migration plans and paths to the XML-based approaches. These data exchange methods could be a center column in a future GDA on content management.

With this background, the Data Exchange Workgroup of the GDA presents the following results, which are exclusively oriented to the future.

5.3.4.1 Technology: Software

5.3.4.2 Category: Document Management – Data Exchange

5.3.4.3 Definition: The eXtensible Markup Language (XML) is a flexible, non-proprietary set of standards for annotating or "tagging" information so that it can be transmitted over a network, such as the Internet, and readily interpreted by disparate computer systems.

5.3.4.4 Area of Document Citation or URL: All URLs were active as of May 2002.

http://xml.gov/	XML.gov
http://www.w3.org/	World Wide Web Consortium
http://www.rosettanet.org/	RosettaNet
http://ws-i.org/	Web Services Interoperability Services
http://www.zdnet.com/	ZDNet Services
http://xmlspy.com/	Altova
http://uddi.org/	Universal Description, Discovery and Integration project
http://www.aiim.org/	The Association for Information and Image Management
http://www.xml.org	OASIS Community Clearinghouse
http://www.legalxml.org/	LegalXML – OASIS Member Section
http://www.ietf.org	The Internet Engineering Task Force
http://www.oasis-open.org/	Organization for the Advancement of Structured Information Standards

5.3.4.5 Need for Standardization: *Standardized data tagging facilitates information exchange among disparate systems*. Identifying, exchanging, and integrating information from different and perhaps unfamiliar sources are functions that are essential to the effective use of networked information for a wide range of goals, including the provision of document management services.

Effective data sharing among computer systems face many problems including

- incompatible operating systems and hardware platforms
- incompatible computer applications written in different programming languages
- inconsistent or poorly developed data definitions
- incompatible data transmission protocols

Without predefined standards in place, systems developers may need to define, in detail, the precise steps to be taken to carry out the exchange of a set of data. These definitions must be encoded in the software and hardware of both transmitting and receiving systems—a potentially complex, time-consuming, and expensive process. In contrast, if standards are in place for how data are structured and tagged, it can be more efficient and less expensive to develop interfaces and, as a result, data exchange can be facilitated.

XML supports Internet-based data exchange. XML is a non-proprietary set of standards for tagging information so that it can be transmitted over a network such as the Internet and readily interpreted by many different computer systems. It is platform-independent, meaning that it can operate on any combination of computer hardware and XML-enabled software. The core XML standard known as XML 1.0 was adopted in 1998 by the World Wide Web Consortium (W3C), which has jurisdiction over the Internet's technical standards. It is a subset of the well-established Standard Generalized Markup Language (SGML) which was approved and published by the International Organization for Standardization in the 1980s and is used primarily in large organizations for tagging technical documents.

5.3.4.6 Recommended Best Practice(s): The system should provide published interfaces for conversion of the data in documents to either XML or HTML. These interfaces must be published in WSDL (WebServices Description Language) format. The resulting XML or HTML

document should allow consumer services to access it and, where possible, render it natively.[11] Documents not natively formatted in XML or HTML shall provide services to render it utilizing the publisher service.

5.3.4.7 Justification: XML has the potential to help the State streamline the identifying, integrating, and processing of information from widely dispersed systems and organizations. Many critical government functions depend on effective information sharing across organizational boundaries, yet the problem of overcoming obstacles to effective data sharing has never been satisfactorily resolved. Currently, broad information sharing needs are at the forefront of national priorities. For example, identifying and countering a bioterrorist attack requires that important medical information be collected and integrated as rapidly and thoroughly as possible. Likewise, law enforcement information about known terrorists and their activities must also be integrated and shared at Internet speed. XML-based systems can play a valuable part in facilitating this kind of broad information exchange. XML's greatest benefits accrue when organizations such as government agencies use standard data exchange procedures and agree on standard data definitions and structures.

XML's larger promise of facilitating data exchange across broad domains (such as an entire agency, a group of agencies, or a set of external stakeholders and client organizations) will be difficult to realize until critical data elements and structures are identified and standardized across entire agencies and communities of interest. This task of identifying and standardizing critical data elements and structures is part of an agency's larger task of developing enterprise architecture. Well-planned enterprise architectures can also promote the adoption of flexible implementations that can be modified in the future to conform to commercial standards that become established over time. Thus, agency enterprise architectures are key building blocks to effective government wide adoption of XML.

5.3.4.8 Technical and Implementation Considerations: Key technical standards for XML have been largely worked out under the auspices of the W3C.

- No identifiable government wide strategy for XML adoption exists to guide agency implementation efforts and ensure that agency enterprise architectures address adoption of XML.

- Commercial standards under development may not address government's needs due to lack of representation.

- No State registry of unique XML data structures exists.

Security risks:

- Increasing access to information that is tagged in human readable form increases security concerns.
- Using the Internet involves greater security and reliability risks than using private communications links.

[11] Natively – In the software or format in which it was created.

- Increased security risks can result from the automatic interpreting and processing of data.

There are generally two primary requirements for sending XML data securely over the Internet: encryption to keep confidential information private; and digital signatures to provide authenticity, integrity and non-repudiation.

- ***encryption***: W3C XML encryption standard specifies how to use XML (syntax and processing) to represent digitally encrypted Web resources (including XML itself) with arbitrary encryption algorithms.
- ***digital signatures***: a joint effort between W3C and IETF leads to current working standards of XML Digital Signature using PKI. A key requirement is to allow XML document senders to sign just parts of an XML document while allowing other users to legitimately alter other parts of the document (e.g., a form in which the user needs to fill in the data).

5.3.4.9 Emerging Trends and Architectural Directions: Given that XML is still in the early stages of development and implementation, a top-down strategy of predefining XML data structures and designating specific commercial standards, such as ebXML, as universal solutions for addressing interoperability is not likely to be effective. Instead, the government's strategy must balance top-down guidance with bottom-up incentives that encourage agency initiative and provide leeway for agencies to develop implementations that best meet their needs.

Specifically, establishing an operational registry for XML data elements and structures (with incentives for agencies to make use of it) could encourage a bottom- up development of de facto standards. As elements of a government XML vocabulary become standardized through this registry on a de facto basis, the government would be in a better position later to revisit the question of which commercial standards and vocabularies to officially endorse.

5.3.4.10 Review Cycle: Semi-annually

5.3.4.11 Timeline: Revision date – June 24, 2002

5.3.4.12 Effective Date: The standard is in draft form and under review.

5.3.4.13 Review History:

Date	Sections Reviewed/Modified	Reviewer	Comments

5.4 Document Management Roadmaps

The GDA participants suggested that an overall method be implemented that might assist agencies in their efforts to deal with the issue of document management in an effective and efficient manner. They termed this method a "roadmap". It attempts to integrate the processes associated with the authorization of document management projects into a list that orders them from start to finish.

Two major criteria that any roadmap must meet are:

- It must be "user friendly".
- It must be of assistance to a variety of audiences including, but not limited to:

  - Agency Heads (Executives)
  - Budget Directors
  - Business Process Owners
  - Customers/Citizens
  - Standards Groups
  - Technical Personnel
  - Vendors

The participants proposed four document management roadmaps, which are described in the following sections. Finalization and adoption of one or more of the roadmaps will be an item on the agenda of the upcoming DMCP.

- **Composite Roadmap for Information Technology Projects** – Shows the major steps and deliverables required for any information technology project (including document management)
- **Project Authorization Process Map** – Outlines the coordinated activities required for implementing document management-based projects
- **eForms Roadmap** – Provides a list of critical questions to be answered when considering the implementation of an eForms project
- **Workflow Roadmap** – Contains some of the important areas to be addressed when considering the implementation of a workflow project

5.4.1 Composite Roadmap for Information Technology Projects

Table 3

Steps	**Project Definition**	**Project Team**	**Business/Technical Requirements**	**Business Process Reengineering (BPR)**	**Approach**
	Business Need	Sponsor	Definition of Requirements	"AS IS"	Outsource/ Insource
	Alignment with Strategic Plan	Project Manager	Contact User Group	"TO BE"	Evaluation/ Statewide Contracts
	Risk Assessment	User Input	Identification of Key DM Areas (i.e. imaging, workflow, eForms, data exchange)	Gap Analysis	Identification of Procurement Method
	Estimated Cost / Benefit	----	Policies, Standards, and Best Practices / Guidelines	Benchmarks	---
	Schedule	---	---	---	---
Deliverables	**Project Request**	**Project Org Chart**	**Requirements Document**	**BPR Report/ Recommendations**	**Project Charter**

5.4.2 Project Authorization Process Map

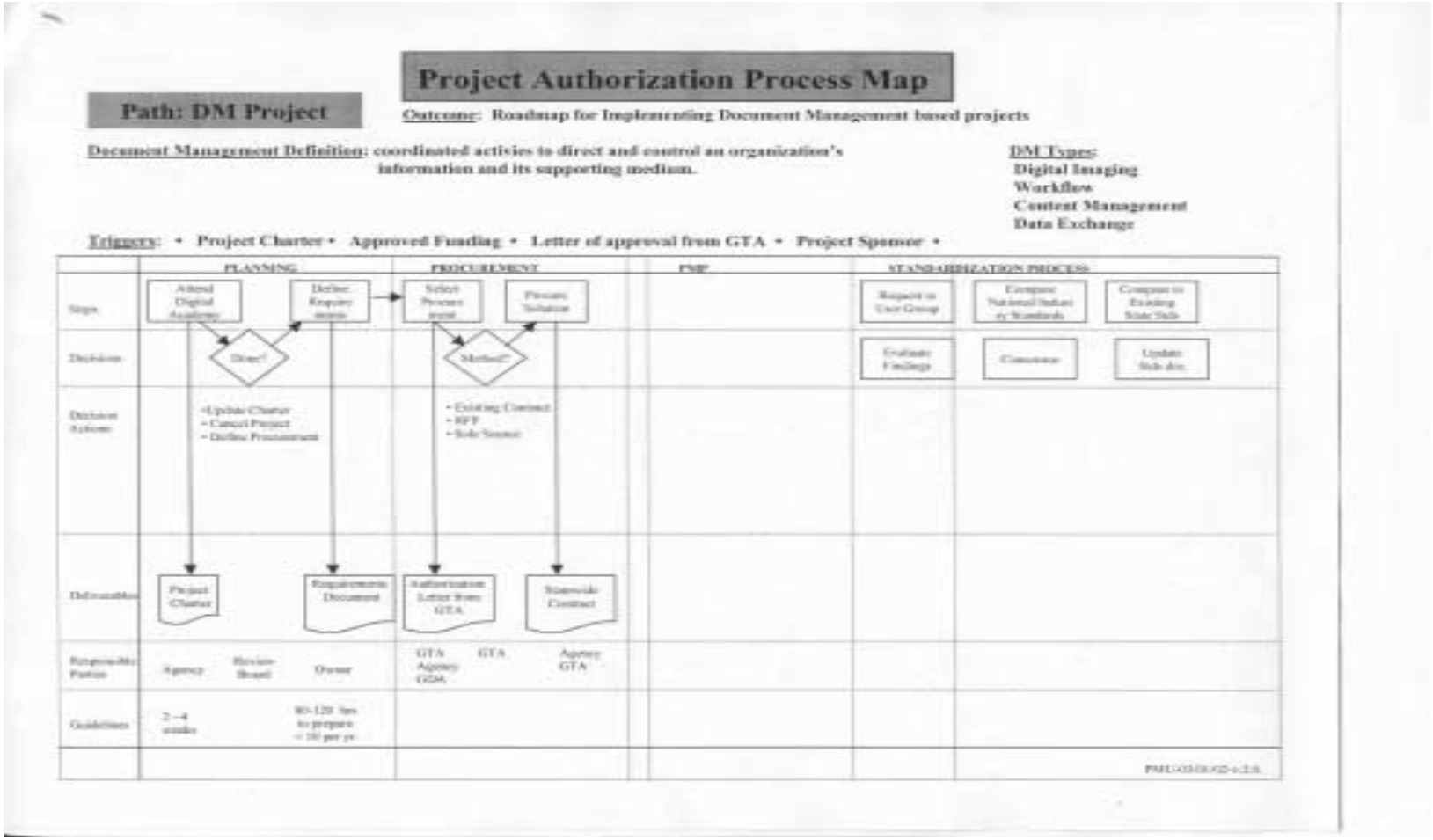

Figure 1. This initial *Project Authorization Process Map* resulted from a brainstorming session of the GDA participants and should be considered as a point of departure for further development of an overall document management roadmap, to be undertaken by the DMCP.

5.4.3 eForms Roadmap

Prior to selecting a digital imaging solution, one should first consider the use of eForms. eForms is a document management solution, which places data in a structured format. Structured data is readily available for analysis and reporting. The utility of eForms as a solution will depend on the agency requirements for using the data to perform everyday operations and decision-making.

The following are representative questions to answer when considering implementation of an eForms solution.

Strategic Planning

1. Is there a goal or objective that requires more or better data flow or processing?
2. Is there a place for eForms as a solution as it relates to the core business functions of the agency?
3. Is there executive-level support and resources to pursue the project?

Needs Assessment/Prioritization

1. What business risk would this technology mitigate?
2. How will the implementation of this technology contribute to the work environment?

Business Process Reengineering (BPR)

1. What efficiencies can the organization gain through the use of this technology?
2. What process improvements will the organization gain and how will this translate to better customer service?
3. Can this technology reduce transaction-processing time (request to decision)?
4. What is gained by immediate and concurrent access to data?

Forms Inventory

1. How many forms are used in performing each agency operation?
2. What is the main purpose of each form?
3. Are these forms for internal or external use?

Forms Analysis [12]

1. Who fills out the form first?
2. Are there special connectivity requirements? (i.e., firewalls and dial-up)
3. What business rules or edits occur in this form? List the types.
4. What systems (HR, accounting, etc.) or databases (SQL, Sybase, etc.) does the eForms application interface with?
5. Will the form require a digital signature, other authorization, or proof of who submitted/approved the form?
6. Is there a payment involved in this transaction?
7. Who does the form route to for further filing or approval?
8. Is data shared with other agencies or entities? If so, identify them?
9. What information or products will be returned to the customer?

[12] Describes the major steps in the business flow of the eForms transaction.

10. What is the estimated volume of business transactions associated with the form?
11. Is supplemental material (e.g., transcripts, diagrams, notes, or photos) required for this transaction?

Legal Requirements

Privacy Protection

1. What security risks are mitigated with this technology?
2. What improved security is provided to constituents with this technology?

Open Records

1. Are there redaction (removal of individual identifying information) requirements in the presentation of data to the public?
2. What are the requirements for reproducing the original transaction and in what format?

Record Retention Requirements

1. Are currently archived records to be incorporated into the new system?
2. Do audit and records retention requirements apply to this transaction or form? If so, what are they and what is the records retention period?
3. What is the total document volume based on estimated transactions and archived transactions to be migrated?

Customer Service Impact

1. What customer convenience is being improved or implemented?
2. Will the implementation of this technology enable the constituency to accurately perform some self-service functions?
3. What will be returned to the customer as the transactions are completed?

Transitional Issues (Training)

1. How will operational processing need to be revised to incorporate the use of eForms?
2. What type and level of training will be required for staff using eForms?
3. Will job responsibilities be changed for certain staff?

Hardware/Software Requirements

1. Based on document volumes, what are the associated storage requirements?
2. Is new software or hardware required to implement eForms?
3. Are software/hardware upgrades required to implement eForms?

Total Cost of Ownership (TCO)

1. What is the life cycle of the current technology solution? (Plan for obsolescence)

5.4.4 Workflow Roadmap

The Workflow Roadmap contains some of the important areas to consider when contemplating implementation of technology solutions for workflow in State agencies. Proper identification of the desired workflow is essential to effectively fulfilling an organization's business needs requirements. Comprehensive analyses of current methods and procedures define operational requirements and technical specifications that are consistent with stated goals and business objectives. Generally, they require on-site interviews with stakeholders throughout the client organization. The analyses become the primary source for completion of a requirements and specifications document. [13]

This identification generally consists of two primary types of analyses: *functional* and *workflow:*

- The **functional analysis** identifies an organization's core functions, which will be derived from its purpose, objectives and mission. It specifies what to do and how to do it, supported by the information already ascertained about why to do it. Simply noting the points in business processes where information is created is sufficient for this task.
- The **workflow analysis** examines the core functions of an organization and how they are achieved via business processes, systems and workflow. That information is needed for an agency's record keeping requirements.

Completing the Functional Analysis

Much of the information that is needed to complete the analysis will already be available. Using these sources, knowledge of the agency, and interviews or conversations with other staff members, answer the following questions:

1. What are the agency's legislative or policy responsibilities?
2. What does the agency do that no other organization does (i.e., what makes it unique)?
3. What is it that the agency does? (the "business" of the agency)
4. Are there any functions that the agency used to carry out, or is supposed to carry out, but doesn't actually do so?

The answers to these questions should result in a:

- list of legislative and policy responsibilities, with short paragraphs describing them
- list of functions, with short paragraphs describing them
- list of any "gaps" and reasons for them

These lists can be used to create a brief document that lays out clearly what the organization does (its functions), how its functions deliver its legislative and policy responsibilities, and which functions of the organization are unique.

[13] The information has been adapted from work done by the government of Victoria, Australia in its *Victorian Electronic Records Strategy Toolkit*. Their work may be viewed in its entirety at http://www.prov.vic.gov.au/vers/toolkit/home.htm

Completing the Record keeping Analysis

This task will lead you to fulfillment of the following goals:

- Identification of the organization's requirements to make and keep evidence of its business activities, assessing the organizational, legal and public relations risks of not keeping adequate evidence
- Identification of the "vital" records of the organization and how they are created

In fulfilling these goals, the following products will be created:

- A structured explanation of the organization's record keeping requirements, understanding the evidence that the organization creates and why it is important
- A record keeping matrix for the organization, showing the intersection of functions, processes, requirements and vital business information

Why do this task?

This task is designed to help discover what evidence the organization needs to create, manage, keep and control, and to assess the effectiveness of the organization's current practices for dealing with evidence in electronic form.

Some clues about what evidence the organization needs to hold from the preliminary investigation, particularly exploration of the regulatory environment.

However, evidence is not just about the imposition of legal requirements. Evidence, in this context, is a way of fulfilling the responsibility to be "accountable to government, courts of law, shareholders, clients, community interest groups and future generations."

Thus, it would be fair to say that this task—identifying the organization's need to make records and assessing how well those needs are met by your current record keeping and information systems—forms the logical basis for the workflow management project. This serves as a firm foundation for discussion about particular solutions as it offers a real benchmark against which solutions can be measured.

This task is designed to provide:

- An understanding of the organization's requirements to make and keep records as evidence of its activities
- An appreciation of the organization's level of exposure to evidence-related risks (such as failures in accountability, legal action and loss of vital records)
- An intellectual framework to support records retention decisions and disposal actions
- An appreciation of the internal and external factors (cultural, technological and economic) that influence how these requirements may be met
- A benchmark for assessing whether the organization's current systems meet these record keeping requirements

- A basis for determining the range of strategies which best enable the organization to meet these record keeping requirements
- The basis for developing functional specifications for record keeping systems, including software products

Vital records and the organization [14]

A key element of this task is establishing what the organization's vital records are. Vital records are records that are defined as critical for enabling key business activities. These will include records that:

- Are required by legislation to be kept
- Provide direct evidence of the fulfillment of key functions
- Provide adequate or sufficient information upon which to base decisions and work within business processes
- Relate to core and/or critical business activities

Comprehensive analysis of current methods and procedures to define operational requirements and technical specifications consistent with stated goals and business objectives should be conducted. This analysis generally requires on-site interviews with stakeholders throughout the client organization. The Needs and Workflow Analysis is the primary source for completion of the Requirements and Specifications Document.

Workflow is the tasks, procedural steps, organizations or people involved, required input and output information, and tools needed for each step in a business process. A workflow approach to analyzing and managing a business process can be combined with an object-oriented philosophy, which tends to focus on documents, data and databases.

In general, however, workflow management focuses on processes rather than documents. A number of companies make workflow automation products that allow a company to create a workflow model and components such as online forms and then to use this product as a way to manage and enforce the consistent handling of work. For example, an insurance company could use a workflow automation application to ensure that a claim was handled consistently from initial call to final settlement. The workflow application would ensure that each person handling the claim used the correct online form and successfully completed their step before allowing the process to proceed to the next person and procedural step.

A *workflow engine* is the component in a workflow automation program that knows all the procedures, steps in a procedure, and rules for each step. The workflow engine determines whether the process is ready to move to the next step. Proponents of the workflow approach believe that task analysis and workflow modeling alone are likely to improve business operations.

[14] Official Code of Georgia Annotated, Section 50-18-91(10)

With the advent of E-mail, the term workflow is popularly referred to as routing and now focuses on using E-mail components as component of the routing solutions. Most Document Management System vendors offer some type of workflow or routing technologies integrated as a part of their systems or as “add on” components.

5.5 Application of GDA Findings to Case Studies: Theory into Practice

Using the case study approach, participants in the GDA were afforded the opportunity to apply the results of their overall efforts to two projects that have implications for document management on an enterprise (Statewide) level: *FileNet Upgrade* and *Integrated Claims Management System* Initiative. A brief description of each project and the applicable case study questions that apply to them follow. *(See Appendix A and Appendix B for further details.)*

5.5.1 Department of Revenue – FileNet Upgrade Project

This is a well-defined document management project. It uses digital imaging as the primary information technology solution and is proposing to upgrade the present version of the FileNet software. The primary challenge to the work groups was, "What would you do differently with the project, if anything, as a result of participation in the GDA"?

Each work group provided responses to the following six **case study questions** for the project:

1. Where is the project on the project roadmap?
2. What component of document management is best suited for the project?
3. What standards/best practices of the document management component you suggested are the most applicable to the project?
4. Are there certain business processes that must be re-engineered to successfully implement the applicable document management component?
5. Are there any aspects of the Project Charter that need to be refined/modified (per PMO template)?
6. What key document management requirements need to be included in the RFP definition for the project?

5.5.1.1 Digital Imaging/Workflow [15]

1. The project is at the end of the project roadmap. It has been approved and is in process.

2. Document imaging is the component of document management best suited for the project. The project's primary focus is on imaging documents for archival and retrieval purposes.

3. The TIFF Image Format, Relational Database Management System, and WORM storage are the standards/best practices of document management that are most applicable to the project. The documents require archival term storage in a format that cannot be changed.

[15] The Digital Imaging and Workflow Groups decided to join together to complete the case studies. By doing so, there was at least one subject matter expert from the projects available in each group.

4. No business processes need to be re-engineered to successfully implement the applicable document management component. The project is purely technical.

5. No aspects of the Project Charter need to be refined/modified. The existing charter is well defined and detailed.

6. No key document management requirements need to be included in the RFP definition for the project. The solution is already in place.

5.5.1.2 eForms

1. As the definition of the project roadmap has varied throughout the GDA-and at the point this case study was done has yet to be drafted--it is difficult to pinpoint where it is on the roadmap. The analysis done so far appears to be considerable and beyond the starting point of the proposed roadmap. The Project Initiation Document (PID) is comparable in content to the Charter.
2. FileNet is a document imaging system. As the PID is an upgrade to that system, Document Imaging is the applicable DM component. Workflow may also be a component depending on to what extent routing the digital images is involved.
3. All of the recommended guidelines that come out of the Document Imaging and Workflow groups would be appropriate for this project.
4. The primary factors that initiate this document are unsupported software and storage capacity. Neither of these items could benefit from BPR. Essentially, the upgrade is the BPR.
5. No. It [the PID] is very comprehensive and is in the same format as the Project Management Office (PMO) template.
6. The digital imaging requirements are the most relevant for this project.

5.5.1.3 Data Exchange

1. The project is at the Project Charter stage on the project roadmap. The Project Initiation Document (PID) is equal to the GTA Project Charter.

2. Digital imaging is the component of document management that is best suited to the project. The PID is primarily concerned with upgrading an existing document imaging system.

3. The GDA proposed use of the XML standard is the most applicable to the project. The agency will be able to exchange and share data/information across agencies.

4. No business processes need to be re-engineered to successfully implement the digital imaging component. XML is transparent to the user, as it operates in the background.

5. No aspects of the Project Charter need to be refined/modified. It followed the recommended GTA standard format.

6. The XML guidelines recommended by the GDA need to be included in the RFP definition for the project. Identifying, exchanging, and integrating information from different and, perhaps, unfamiliar sources are functions that are essential to the effective use of networked information for a wide range of goals, including the provision of document management services.

5.5.2 State Board of Workers' Compensation – Integrated Claims Management System Initiative

This project is in the "idea" stage of development. There is no agreed-upon, implemented document management technology at this point. The primary challenge to the work groups is "How may the results of the GDA benefit this project"?

Each work group provided responses to the following six **case study questions** for the project:

1. Where is the project on the project roadmap?
2. What component of document management is best suited for the project?
3. What standards/best practices of the document management component you suggested are the most applicable to the project?
4. Are there certain business processes that must be re-engineered to successfully implement the applicable document management component?
5. Are there aspects of the Project Charter that need to be refined/modified (per PMO template)?
6. What key document management requirements need to be included in the RFP definition for the project?

5.5.2.1 Digital Imaging/Workflow

1. The project is in the Procurement (Authorization Letter from GTA, but with stipulations) stage on the roadmap.[16]
2. All areas of document management (digital imaging, eForms, workflow, and data exchange) are a part of the identified Scope of Work for this project.
3. The project hinges on all recommended guidelines and standards across each component of document management, as determined by the GDA.

[16] See the Project Authorization Process Map.

4. Certain business processes must be re-engineered to successfully implement the applicable document management areas. Process improvement is the key goal of this project.
5. No aspects of the Project Charter need to be refined/modified. It follows the recommended GTA format and content.
6. Incorporate the GDA recommended guidelines as part of the RFP definition for the project.

5.5.2.2 eForms

1. The ICMS initiative is at the starting point of the roadmap-that is a high level analysis in order to determine the appropriate technology. Based on the initiative document, the roadmap that has been discussed thus far in the GDA would be of benefit in guiding the team members through the project.

2. All of them. Workflow, Digital Imaging, Data Exchange and eForms will all play a major role in this project. The goal of the project is to improve productivity, responsiveness, flexibility, functionality, effectiveness, as well as increase security and accuracy of the data. Each of the four areas can address these goals (although in significantly different ways).

3. All of the recommended guidelines and best practices that are a direct result of the GDA will be applicable to the DM areas of this project. The standards documents and GDA agendas support this comment. The work that we have done on the Open Records Act and Archives will also have applicability here.

4. After reviewing the information in this case, it appears the processes that are established are sound. The major requirement appears to be to transform the activities into an electronic platform. However, almost all processes can benefit from some BPR. Since a workflow management application is considered to be part of the project--BPR is more than likely to be a by-product of that implementation.

5. While the document seems comprehensive as a charter, the last 4 headings in the PMO template are not in the ICMS initiative. Some of these sections may not be necessary but at the least there should be some indication that these items were considered (constraints, dependencies, assumptions, risks).

6. All of the requirements that come out of the GDA would be appropriate in the RFP definition for the project. The requirements to satisfy the Open Records and Archives Guidelines should also be included.

5.5.2.3 Data Exchange

1. The project is in the Project Charter initiation stage on the roadmap, as indicated by its title.

2. All four areas of document management are suitable for this project. It appears to require all four areas.
3. The XML recommended standard is the most applicable document management standard/best practice for this project. See the GAO Report and the GDA XML recommended standard.
4. There is the possibility that certain business processes may need to be re-engineered to successfully implement the applicable document management areas. XML may require change of business processes to adopt the GDA XML standard.
5. The Project Charter needs to include sections for standards, dependencies, assumptions, risks, and constraints. These sections are either minimally addressed or not specifically addressed.
6. The XML GDA guidelines on data exchange need to be included in the RFP definition for the project. This component is only addressed briefly.

5.6 A Comprehensive RFP for Document Management Projects

The GDA participants reviewed existing Requests for Proposals (RFPs) in the document management area. The Georgia Department of Revenue shared one example for a Correspondence Management System, and the Office of School Readiness shared its RFP for a Document Imaging System. The participants determined that the RFPs had many common requirements and features. Consequently, they concluded that the development of a comprehensive approach to developing RFPs in the document management areas would be desirable.

With a comprehensive RFP, multiple State agencies can either develop document management RFPs in a cookie-cutter fashion, or potentially utilize one agreement with a set of preferred vendors. When added to the goal of standardization and the value/deliverable base for project pricing, the participants agreed an improved approach to RFPs and procurement could be developed across the agencies for document management.

Although completion of this task was outside the scope of the pilot GDA on document management, its potential benefits prompted the GDA participants to agree to resume discussion of it in the upcoming DMCP.

6. A PEEK INTO THE FUTURE

The GDA participants agreed to sustain the positive results of the pilot session by forming a users group called the Document Management Community of Practice (DMCP). The first meeting of the group is tentatively scheduled for the first week of July 2002. A tentative work plan follows:

Work Plan for the DMCP

Steps	Activities	Outcomes	Deliverables
1. Determine host institution.			
2. Hold organizational meeting/select officers.			
3. Determine deliverables and their accompanying activities.			
4. Establish timeframes.			
5. Produce deliverables.			
6. Evaluate deliverables.			
7. Revise work plan, as necessary.			

Figure 2. An Overview of the Initial Work Plan for the DMCP

Host: The sponsor for the DMCP must have:

- Authority to act
- Ability to acquire funds
- Ability to obtain corporate sponsorship
- Facilities or access to facilities

6.1.2 Activities:

1. To review recommended guidelines and best practices and as appropriate, approve them as Document Management Standards
    a. Evaluation process
    b. Submission process
    c. Reporting process
2. To review projects
3. To evaluate curriculum
4. To provide Q & A session for potential agency projects
5. To assess the feasibility of developing a comprehensive RFP for document management projects
6. To discuss the issue of security and the critical role that it plays in document management

6.1.3 Deliverables:

1. Recommended guidelines and Standards
2. Mandate/charter/by-laws

6.1.4 Outputs:

1. Recommendations
2. Review projects
3. Website
4. Newsletter
5. Certification/Program
6. Reference/Referrals
7. Vendor shows

6.1.5 Inputs:

1. Digital GDA and transition to Users Group
2. Feedback on GDA
3. Body of User Groups

6.1.6 Benefits:

1. Networking
2. Influence/community of practice
3. Agency – increased knowledge
4. Agency – positive PR
5. Agency – fast track to project approvals

7. CONCLUSIONS

The GDA's work has resulted in six major conclusions about document management. These conclusions are summarized as follows:

Conclusion 1 - Document management is a huge and diverse area of business and technology. It proliferates throughout the statewide enterprise, affecting all citizens and aspects of government. Given the size of the domain, the GDA concluded that a division of the topic area was necessary in order to analyze and approach it within the timeframe specified for the pilot session.

Conclusion 2 – The division of document management into the four areas of digital imaging, eForms, workflow, and data exchange has served well as an initial point of departure. It has:

- Allowed the GDA to manage the enormity of document management and function effectively in the group processes
- Provided a basis to communicate meaningfully and effectively with the GTA about standardization in document management and the GDA participants' relative roles in that standardization process
- Brought the GDA participants to four of the more important areas of concern in document management for Georgia and the participants have made progress on addressing those areas.

However, the participants are mindful that as good a beginning as has been made with these four areas, they still remain *just the beginning*. Therefore, the GDA concludes that it must expand upon this start and open up other paths of investigation and discovery to make progress on more of the vast areas to cover in document management.

Conclusion 3 - Standardization is needed in each of the areas of document management, and this standardization should proceed systematically and with due diligence. The GDA's decision to recommend only best practices and guidelines is an extension of this conclusion. Exercising cautious diligence in the adoption of standards is a cornerstone of the ANSI and ISO standards process. The GDA concluded that document management standards for Georgia are needed and that they should be formulated and adopted through an accepted process, similar to that of AIIM. It is through such standardization that agencies can become effective document managers for the State.

Conclusion 4 - To effectively manage documents, agencies need to work and think strategically, tactically, and operationally. To do so, the GDA concluded that a process road map for document management is needed. (*See Figure 1 for the rudiments of such a roadmap*.)

Conclusion 5 - Many document management systems and projects have much commonality. Furthermore, a related conclusion is that many document management projects can benefit from a comprehensive approach to procurement because they have so many elements in common. Consequently, the approach to vendors and procurement in document management is worthy of continuous evaluation and improvement; e.g., by working toward more comprehensively inclusive RFPs, as referred to in Section 5.6.

Conclusion 6 - Working in a community of practice is an efficient and effective means of addressing document management in Georgia. It is *efficient* in that it is a self-directed and self-

sufficient way of dealing with an enormous domain—it reduces the need for external consultants. It is *effective* in that it will lead to standardization that is developed on a broad, statewide basis.

8. RECOMMENDATIONS

The GDA proposes six specific ***recommendations to the GTA*** regarding document management:

Recommendation 1 - The GTA should continue to foster collaboration by establishing the Document Management Community of Practice (DMCP) or Users Group. *(See Section 6 for further details.)* The GDA would like to see the first meeting held in July, with items on the agenda to include:

- Receiving GTA's reaction and feedback on this final report
- Initiating action to formalize the group

Recommendation 2 - The GTA should *advertise the DMCP well and recruit early*. All agencies should be invited to participate.

Recommendation 3 - The GTA should work to develop partnerships to sponsor and facilitate the establishment and operation of the DMCP (and other communities of practice), as specified by Section 50-25-4, subsection A4 of the Official Code of Georgia Annotated. Funding and support should be provided for such items as:

- Communications and advertising
- Conferences
- Demonstrations
- Expert advice
- Incentives for participants and agencies
- Speakers
- User groups (e.g., meeting places and advisors)
- Vendor Days
- Web site (development and maintenance)

Recommendation 4 – The GDA sessions should be continued and expanded. These sessions should cover such topics as security, content management, format, and seminars on focused areas of interest to the GTA and the State. Advertisement of the GDA to agencies should be enhanced to include:

- Distributing communication materials a month in advance
- Putting information on the GTA web site
- Providing contact information for learning more about GDA sessions
- Meeting budget dates for travel purposes by making an annual topic list available in May or June

Recommendation 5 - The GTA should, with respect to standardization:

- Adopt the GDA's definition and categorization of document management
- Define a structure for standards, policies, and procedures that includes but is not limited to: a vision for the future, a maintenance process, an evaluation process, and a feedback process to allow input from the range of interested parties
- Establish a standardization process that, for DM, includes the DMCP

- Establish a link between the standardization process and implementation action
- Utilize information technology (IT) to solicit feedback on the standardization process from the range of interested parties. *Intranets.com* or a similarly functioning tool is suggested. Appropriate personnel who will participate in this standardization through IT should have business knowledge of the agency and should represent the full range of the business function of the agency
- Model the GEITLF council after GTA's Account Management Division, where each member of the council may represent multiple agencies with similar business functions (Such action will maintain quality and ensure representation in the standardization process.)
- Apply the standardization process to the recommended guidelines and best practices presented in the *Results and Discussion* section of this final report.

Recommendation 6 - The GTA should develop a comprehensive RFP for document management where the resulting contract should provide access to multiple vendor solutions. The GDA's rationale for this recommendation includes:

- Cost effectiveness - create the RFP once and use it multiple times
- Ease of procurement - for everyone (agencies, GTA, and vendors)
- Maintenance of quality - a way to address the main issues of each agency: size and number of users, costs, scope, and complexity of projects

(See Section 5.6 for more information on the comprehensive RFP.)

With respect to document management across the Statewide enterprise, the GDA proposes four major ***recommendations to the agencies and to the proposed DMCP*** regarding document management:

Recommendation 1 – Refine the overall roadmap for document management, as the highest priority. That is, we need to *widen the road and add more lanes* to expand its scope, to include privacy in e-government, security, and content management (in addition to the areas of digital imaging, eForms, workflow, and data exchange).

Recommendation 2 - Hold a Vendor Day for document management.

Recommendation 3 - Work on the GDA "Parking Lot" items identified during the course of the pilot session and delineated in the upcoming GTA internal report on the overall GDA pilot effort.

Recommendation 4 – Develop liaisons and working relationships with external document management groups, such as AIIM.

9. TERMS AND DEFINITIONS

- AIIM - A neutral and unbiased source of information. It produces educational, solution-oriented events and conferences, provide up-to-the-minute industry information through publications and an online Resource Center, and is ANSI/ISO-accredited for standards development.
- Boolean search - The ability to use logical concatenations (and, or, not, nor) to search data.
- ebXML – Electronic business eXtensible Markup Language.
- Fuzzy search - The ability to find data based on phonetics (synonyms and homonyms).
- ISIS - The Image and Scanner Interface Specification software was developed by Pixel Translations in 1990 as a framework for the construction of high-volume document image capture and processing systems. It goes far beyond TWAIN in providing a unified method of connecting a variety of imaging functions, including image acquisition; image data compression formats; file formats, and modules for the viewing and printing of image data. ISIS also supports third-party scanner control and image processing hardware from vendors such as Dunord Technologies, Kofax Image Products, Seaport Imaging, and Xionics Document Technologies, effectively layering into the ISIS application development environment the added value that these technologies provide. ISIS is the basis for the AIIM/ANSI MS61 API standard for scanners in the document imaging environment.
- GAO - Government Accounting Office.
- Middleware - Middleware, or "glue", is a layer of software between the network and the applications. For example, Crystal Reports is a middleware product that provides reporting capabilities for various applications.
- Out-of-Box - Term used to describe a vendor’s capability of providing the maximum amount of features within its core product(s) without the use of additional middleware, third party products, or interfaces.
- TWAIN - Citations vary as to the meaning of the acronym. Some sources indicate that it was an acronym developed playfully from "technology without an important name". However, the Hewlett-Packard site suggested that it is not an acronym but stands for the bringing together of applications and scanners in a "meeting of the TWAIN" (the bringing together of two sides). The separate TWAIN web site indicated that it doesn't stand for anything - "TWAIN is TWAIN".

APPENDIX A

Project Initiation Document – FileNet Upgrade

Department of Revenue

Department Of Revenue
Information Systems Division

FileNET Upgrade
Project Initiation Document

Prepared by: Pat Cagle
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Date: July 25, 2002

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Document History

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Revision Record

Number	Date and Sections	Notes

Acronyms

Acronym	Description
CMS	Correspondence Management System
DBA	Database Administrator
DMS	Document Management System
DOR-ISD	Department of Revenue Information Systems Division
DS	Document Services
ELF	Electronic Filing
ISD	Information Systems Division
OSAR	Optical Storage and Retrieval
PMG	Process Management Group
QA	Quality Assurance
TP	Tradeport

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Introduction

Purpose

This document justifies and summarizes the effort required to complete an upgrade to the FileNET software currently used by DOR. It defines the scope, effort, and costs involved in completing this project.

Document Organization

Section 1 Introduction: provides the purpose of the document.
Section 2 Executive Summary: provides an overview of the business and project objectives along with high-level recommendations for the project.
Section 3 Project Overview: Provides a detailed description of the project objectives, scope and requirements.
Section 4 Justification: Provides cost, benefit and risk analysis
Section 5 Project Plan: Provides assumptions, constraints and the schedule needed to go forward with the project.
Section 6 Project Organization: Provides a list of resources and their respective responsibilities needed to complete the project along with a project organization chart.
Section 7 Project Budget: provides estimated project costs.

There are also several supporting appendices in this document.
Appendix A Control Procedures: Provides quality assurance, change control and issue resolution guidelines.
Appendix B Training Plan: Provides a general approach for training users (without a schedule).
Appendix C Schedule: Provides a copy of the project plan as completed thus far.
Appendix D: FileNET responses to GTA concerns.

Project Background

The DOR went through many process and system reviews as a result of the Y2K issue. Many initiatives were identified and begun. One of the most strategic of these initiatives was the new DOR native FileNET electronic document repository and retrieval system. This system was implemented in March 2000. Enhancements, such as a more "user friendly" retrieval screen and the conversion of images previously stored on CDs, were developed. An interface to allow IAD to verify the quality and legibility of stored images was also developed (Quality Assurance) and IAD has verified images for processing years 1997 – 2000. The imaging system currently has over 28 million tax record documents stored and online for immediate retrieval.

Shortly after the FileNET electronic document repository was installed at DOR both FileNET and Oracle announced new versions of their software. The FileNET system was originally installed at DOR using Version 3.4.2 under Oracle Version 8.0.5. FileNET Version 3.4.2 will not work on the newer versions of Oracle and therefore must be upgraded to Version 3.6. DOR is currently using Oracle Version 8.1.5 in the rest of its systems and plans, in the coming fiscal year, to upgrade to Oracle Version 8.1.7. If the FileNET Upgrade project is not completed the Department will be forced to continue to run and maintain an old version of Oracle that is no

longer supported by it's maker, along with an old version of FileNET software that will possibly be withdrawn from support within the next year. FileNET software must be upgraded in order for support to continue for the entire system.

Related Documents

Maintaining Supportive Infrastructure: Project Initiation Document, FY2001, June 1, 2001.

Executive Summary

Requirements/Scope Summary

Software upgrades are an ongoing issue within the IT world and must be planned for in order to maintain enterprise currency and provide business critical functionality. The Department of Revenue (DOR) must upgrade from FileNET IDM software version 3.4.2 for the following reasons:

- Support will probably be withdrawn soon for this version
- Version 3.4.2 will only work on Oracle Version 8.0.5 (not higher versions of Oracle) which is also unsupported
- New jukeboxes, used to store the images created in FileNET, will not run on the older version of FileNET software
- Oracle Version 8.0.5, required by the current version of FileNET, contains a bug that has already demonstrated severe backup and recovery problems

DOR images are currently stored using the FileNET IDM software Version 3.4.2. This version of FileNET runs under Oracle 8.0.5 and will not run on later versions of Oracle.

The DOR is currently running Oracle 8.1.5 in the rest of its systems with plans, in the next fiscal year, to upgrade to Version 8.1.7. Within the next fiscal year Oracle will drop support of Version 8.0.5 and the imaging application will be running on an unsupported version of Oracle. FileNET has released Version 3.6 of its software and may also withdraw support of the older version we are now running.

If this application encounters a failure, while running on unsupported software, it will remain down until a resolution is reached. System fixes will either be performed by contracting for out-of-scope maintenance, which is very expensive, or by someone on DOR's staff. Fixes performed by DOR staff will be time consuming since no one on staff has enough System Administrator's training to know how FileNET and Oracle interface.

Running Oracle 8.0.5 also poses very serious issues in backup and recovery processes. The Document Management System (DMS) staff is in the process of converting ELF claims into images and storing them onto the FileNET system. There is a reported bug in Oracle 8.0.5 that will not allow the restoration of certain Oracle tables to that version should failures occur. This failure centers on the processing of ELF data and has already occurred in the IITS area.

The DMS group plans to begin, in March - April 2002, the backfill conversion of ELF data into images for years 1996 – 2000. If we encounter problems with the Oracle tables during this process the potential exists to lose all data that we have converted. Duplicate images of the data might also be created if the data can be restored. The creation of duplicate images is time consuming and costly. The costs for the optical platters needed to store the duplicates will have to come from the Internal Administration Division's (IAD) budget. This was not an anticipated cost in the IAD Operations Budget.

The upgrade project also requires that the existing **customized code** used in FileNET processing be thoroughly tested and verified before being released into production. This will have to be coordinated with the user groups and with Oracle. The longer the project is delayed the longer DOR will be forced to run on unsupported code. This could be detrimental should a failure occur and we have no support, either from the vendor or from in-house staff.

Unsupported software is not the only problem with using FileNET Version 3.4.2. The jukeboxes currently used to store the images of tax documents were withdrawn from availability in November 2001. The new jukebox technology requires a newer version of FileNET software and will not operate on our current version of FileNET. We will not be able to purchase additional jukeboxes until FileNET is upgraded.

Once we run out of storage capacity on the existing jukeboxes we will not be able to store images for ongoing processing unless we offload platters containing prior years images. The prior years' images, for the time period of 9/1997 – 4/2001, cannot be easily offloaded since platters contain images for all four years as a block of images.

Over the past year, the GA DOR has begun to utilize shared storage as a critical component of the FileNET system. Continued proliferation of NT servers and server-dependent storage is costly with regards to hardware, personnel, and systems management. By further consolidating storage into a shared environment, fewer servers and Oracle licenses will be required, and the system administration efforts will be reduced.

With the upgrade of FileNET certain features are also gained. The new version allows the use of a remote Oracle instance to store index data, thereby possibly reducing the number of instances needed on the FileNET servers. This offers customers the cost-saving ability to run an Oracle database on a separate application server. The new release of FileNET also offers enhanced functionality by extending business processes to the Web, resulting in increased efficiency, reduced costs of ownership and reduced support functions.

By implementing the system upgrade and instituting best management practices and procedures, the GA DOR will benefit by getting maximum utilization and performance across both people and technology, resulting in higher levels of service at reduced costs. The full implementation of a shared storage array along with the FileNET upgrade will provide the GA DOR with the following advantages:

- Application servers will be centralized
- Maintenance and support will be more manageable
- Adding capacity will be much easier…responsiveness

- Standardized storage management…efficiency
- Storage will be centralized and easily upgraded thereby reducing the overall cost of server maintenance
- The ability to add new functionality to existing systems….reduced total cost of ownership

With improved customer service being the ultimate overall benefit.

Constraints/Issues

Time constraints are the biggest issue facing this project. If this project is not started immediately the department will be out of space for document storage before the middle of next year. Additional, highly trained, staff will have to be hired to work with the current jukeboxes mounting and unmounting platters as requests for documents are routed to the jukeboxes for printing. This will be quite costly to the Department because the staff hired must possess a highly specialized skill set and understand the imaging technology with which they are working.

The availability of the above mentioned support personnel and the approval process constrain the project. Due to the impending start of the 2001 tax season in January 2002, the implementation phase of this project cannot be started until after the majority of the tax forms have been processed by DOR. The planning and analysis phases can however begin once project approval has been granted. It is imperative that this project begin as soon as possible so that implementation will be well underway by November of 2002. Our storage capacity on the existing jukeboxes will be running at a critical level by that time.

Recommendation

The FileNET Upgrade project should be approved and started as soon as possible. The upgrade is necessary for DOR to continue document storage and retrieval functions without interruption in service. With an upgrade to FileNET Version 3.6 DOR will be able to:

- Receive much needed on-going support from both FileNET and Oracle for our Imaging Repository
- Effectively backup and restore the Imaging database
- Purchase new jukeboxes for storage purposes
- Efficiently maintain just one version of Oracle within DOR

The upgrade is necessary if DOR is to keep up with technology and continue to provide a centralized repository for document storage and retrieval.

Project Overview

Business Objectives

The following business objectives of the FileNET Upgrade project may be traced to the DOR strategic objectives identified in the Strategic Information Systems Plan. The Strategic Plan objectives are:

- Provide customer service
- Streamline processing activities
- Provide Quality Business Solutions through Innovative Practices and Technologies

Reference No.	Business Objective Description	Strategic Objective
1	Keep DOR applications and infrastructure current with industry standards and emerging technologies.	Provide Quality Business Solutions through Innovative Practices and Technologies.
2	Make the processing applications and infrastructure more economical, easier to run, expand and support.	Streamline Processing Activities.
3	Expand Service Offering Capabilities.	Provide Customer Service.

Project Objectives

The project objectives may be traced in turn to the business objectives in Section 3.1. This mapping shows how the requirements support ISD business objectives that support DOR strategic objectives.

Business Objective Ref. No.	Project Objective Ref. No.	Project Objective Description
1,3	1	Upgrade FileNET software to vendor's current version in order to maintain functionality and growth potentials.
1,2,3	2	Expand proven network storage infrastructure to increase integrity of FileNET application environment at Tradeport.
2	3	Identify and modify existing custom code interfaces that have to be changed/modified.

Project Scope

The FileNET Upgrade project will replace the present software version of FileNET, increase the availability of extended storage and provide the needed growth platform to support the core

DOR imaging business functions. The upgrade will focus primarily on moving the present level of functionality to the new version. The tasks to accomplish this upgrade include:

1. Analysis of necessary changes to implement the FileNET upgrade.
2. Analysis of any process changes that might be necessary.
3. Analysis of impact on all interfaces that communicate with and supply data to the FileNET system.
4. Requirements to implement the changes.
5. Design of both system changes and work processes necessary to accomplish the upgrade.
6. Coding necessary changes to accomplish the project's objectives.
7. Testing; Unit, Systems/Integration and User Acceptance Testing (this involves participation from IAD).
8. Documentation of changes, processes and testing.
9. Training. IAD User Supervisors and Team Leads will be trained in the changes, if any, required to perform their business functions under the upgraded system.

Issues that are out of scope for this project include:

1. The purchase of new jukeboxes.
2. Installation and training for Oracle upgrades (these will be handled by the DBA group).
3. New functionality will not be added to DMS at this time (new functionalities can be addressed later in an SCR).
4. The DMS FileNET Upgrade Project covers only the Images Services component of the FileNET products. Other FileNET products, such as Visual Workflow and Content Services, are used by the CMS and are not part of the scope of the DMS FileNET Upgrade. The CMS will be migrating to the FileNET e-Process product suite. Planning for this migration needs to occur in FY2003 and actual implementation should follow in FY2004. The planning and implementation phases for the e-Process upgrade are separate from the DMS FileNET Upgrade request covered in GTA Tracking No. G02547. The differences between the DMS and the CMS projects and the FileNET products used by each group are:
    a. DMS = High Volume/Low Retrieval/Pre-defined Documents Types
    b. CMS = Low Volume/High Retrieval/Multiple Document Types and Content (email, MS Office).

High Level Requirements

Project Objective Ref. No.	Requirement Ref. No.	Requirement Description
1	1	Implement FileNET 3.6 from 3.4.2.
2	2	Coordinate with other DOR teams to procure and install connectivity upgrades to the extended storage array in order to increase integrity and connectivity of application infrastructure, including disaster recovery.
1	3	Coordinate with DBA team to upgrade the level of Oracle databases to 8.1.7.

1	4	Coordinate with the LAN team to upgrade Server operating systems to Windows 2000.
1	5	Provide design documents for the project upgrade.
1	6	Design training for the user supervisors and team leads so they can in turn train others.
3	7	Provide post implementation assessment of functionality and system changes/upgrades.

Justification

Cost Analysis

High Level, Total Project Costs FY 2002		
Costs	**Value**	**Assumptions**
Project Team (State)	$ 252,295.35	Fourteen members with medium to high involvement
Contractors (State)	$ 734,773.41	Eleven members with various involvement levels over the course of the project
Vendor Consultants	$ 50,000.00	Team of 3 – 4 mainly at front-end of project
Storage Expansion Hardware and Software	$ 823,000.00	Software costs for the new version and infrastructure enhancement (hardware) as needed
Training	$ 90,000.00	ES and FileNET upgrade training
Trackers	$ 98,706.88	Two – three staff members involved
Total	$2,048,775.64	

Benefit Analysis

The migration of the FileNET system to Version 3.6 has significant benefits. These include:

Tangible Benefits	
Benefit	**Assumption**

Tangible Benefits	
Increased Deployment Enhancements	The upgrade allows an organization to run Oracle RDBMS on a separate database server. The FileNET index database and Oracle instance can run on a server other than the Image Services Root server.
Offers Increased Operating Environments/Database Support	It offers support for the latest operating systems, including Windows 2000, Unix, Oracle and SQL Server. Databases supported include Oracle 8.1.7 and MS/SQL 2000.
Supports New Hardware Technologies	The jukeboxes we currently use are no longer being made. The upgrade supports the newer technology now available (HP MX series jukeboxes in EX compatibility mode). The software also supports the newer Plasmon jukeboxes, new SCSI adapters and new Serial Expansion Boards.
Improved Storage System Architecture	Improved system availability and storage elasticity, thereby providing a more robust business continuance/disaster recovery strategy.
Reduced time in application development and implementation	The upgrade will enable systematically faster testing for all software application certification requirements, resulting in improved time to deployment, higher productivity, and improved user interfaces. Access is faster because of the speed of magnetic storage over that of optical storage.

Intangible Benefits	
Benefit	**Assumption**
Avoid risk of relying on non-supported software	New version, along with Oracle 8.1.7, is the current supported version for vendor.
Enhanced availability and data integrity for mission-critical content	The latest release expands the value of content management over the Web for internal processes and customer service.

Strategic Benefits (Providing information that was not previously available)	
Benefit	**Assumption**
Provides Better Customer Service	IAD will be better enabled to expand its services to its community of interest across the Intranet.
Streamline Processing Activities	The new system provides the flexibility to change databases after initial installation via conversion tools, services and Professional Services organization.
Improved System Security and Data Protection	The new system provides the flexibility to set security independently for related objects; document, folder and annotation.

Risk Analysis

The following Risk Management Action Plan summarizes the key Project Risk Factors and the tasks necessary to manage or minimize these risks.

The Project Risk factors along with their respective mitigation plans are below:

Risk Analysis Matrix	
Risk	**Mitigation Plan**
The skill set of the existing staff, along with the learning curve to master the new software version, will affect the quality and timing of the delivered system.	• Engage a key resource from the vendor to analyze DOR's present system and the scope of the migration effort. • Thorough training on the new software for all appropriate personnel. • Engage the vendor's professional services staff to significantly assist the migration effort with our in-house team.
Short amount of time for project delivery: the system should be in place before IAD runs out of storage space on the current optical jukeboxes. Initial estimates determine that IAD probably has enough storage capacity to last through the upcoming tax season.	• Engage the vendor's professional services staff to significantly assist the migration effort with our in-house team. • Limit the scope of the migration to only implementing the existing application functionality. Discretionary enhancements would be done as a follow-up.
Small window for "go-live": criticality of minimizing down time of system for the migration. The DMS is relied upon for the imaging of all DOR tax returns and it is not acceptable to DOR to be down for a significant amount of time.	• Plan production cutover during weekend. • Expand testing plan scope and increase testing-cycles to increase assurance that implementation window can be met. • Provision test-bed to more closely mirror production environment (i.e. use dedicated test system; create automated testing facility to approximate all production scenarios in test environment).

Project Plan

Assumptions

The attached schedule is contingent on the following assumptions:

- Software vendor will be engaged as planned: contract finalisation will be completed timely, the right consultants will be available in a timely manner, the relationship will be controlled successfully, etc
- Key in-house staff will be retained. Also, project team members will not be materially "pulled back" to regular support duties nor will they be drafted into increased participation in other projects.
- Approval cycle will be fast tracked, as implicit in the work-plan.
- Budgets for project resources will remain available.
- Business priorities will not change during project cycle.

- No material adverse discoveries are made during the detail specification phase of the project.

Constraints

The scope and timing of this project is effected by key constraints including the following:

- Known delivery timeframe: needs to be done before IAD runs out of jukebox capacity.
- Current on-going support of the existing DMS along with work on FARMS integration, ELF conversion, CMS FileNET support and the media family platter conversion are also the responsibility of the team that will be assigned to this project. Personnel need to be assigned by management solely to this project so that it may be completed in the short timeframe available.
- The current jukebox technology is no longer available, therefore the upgrade must occur before more jukeboxes can be purchased and placed into operation.
- The DOR and State of Georgia Approval and Budgeting process.

Note: The Oracle 8.17 Upgrade of FileNET servers will be done in conjunction with DBA's and will be subject to DBA availability.

Key In-house Schedule

The following table presents the project manager's synopsis of the key flow of project milestones and phases from the project work-plan. The complete detailed MS Project Plan is attached.

Synopsis of Key Project Flow Tasks and Milestones		
Milestone/Task	**Start/End Dates**	
Project Initiation	27 Nov 2001 – 18 April 2002	
GTA approves PID Document	18 April 2002	
Procurement	11 Feb – 31 May 2002	
Analysis Tasks	24 April – 19 Aug 2002	
Upgrade Implementation Specifications (Definition)	20 Aug– 5 Sept 2002	
Unit Test to Emulate CC	6 Sept – 18 Nov 2002	
Package Integration (System Testing –3.4.2 Level - TP)	19 Nov – 20 Dec 2002	
Upgrade Primary FileNET Components – Unit Test System to Emulate TP at 3.6 Level	23 Dec – 3 Feb 2003	
Load Data to Unit Test System	4 Feb – 10 Feb 2003	
Unit Test FileNET Components	11 Feb – 20 Feb 2003	
Application Programming Testing	21 Feb – 10 March 2003	
User Acceptance Testing	11 March – 1 May 2003	
Installation and Production Go-Live	2 May – 9 July 2003	
Monitor and Support	10 July – 25 Aug 2003	
Production and Process Improvement	26 Aug – 16 Oct 2003	
Clean Up	17 Oct – 6 Nov 2003	
Post Implementation	7 Nov – 14 Nov 2003	

Project Organization

Resources

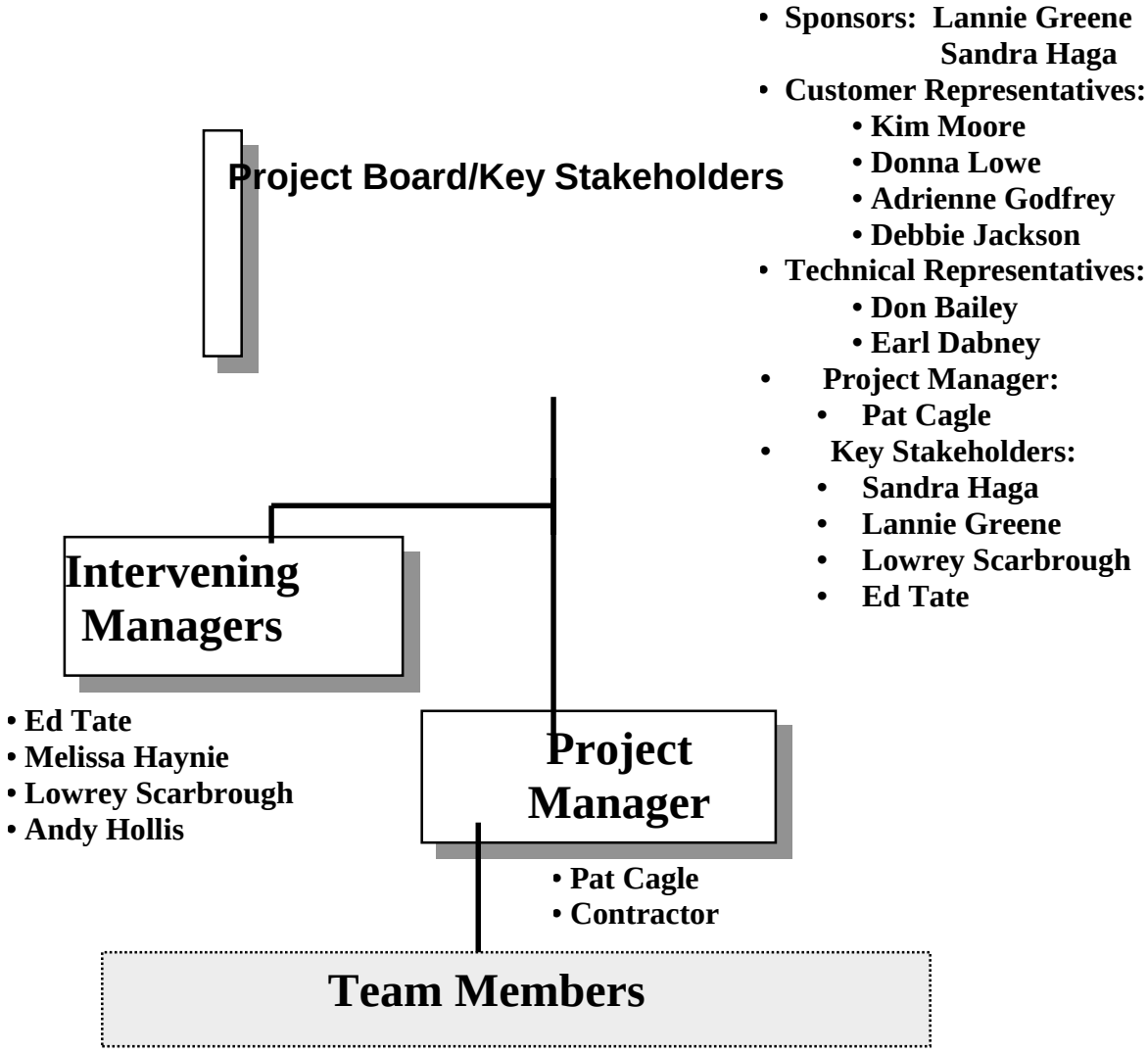
Resources allocated to the project are shown in the following worksheet depicting roles and responsibilities with a hierarchy of named individuals serving as Project Board, Intervening Managers, Project Manager, Project Team, and Key Stakeholders.

Role	Responsibilities	Resource	Time Req'd
Project Board/Key Stakeholders	• Expenditures • Resolution of issues • Go/No go • Ensure success • Approve scope	Sandra Haga Lannie Greene Donna Lowe Adrienne Godfrey Ed Tate Lowrey Scarbrough Pat Cagle Don Bailey Earl Dabney Kim Moore	5%
Project Sponsor	• Chairs the Project Board and funds the project. • Represents project to the rest of the organization.	Lannie Greene	5%
Customer Representatives	Allocates business resources to the project team. Ensures that the project's results will work in the operational level of the business. Provide test data from IBML scanners. Perform Custom Retrieval and AutoPrint functions. Perform Quality Assurance functions.	Kim Moore Donna Lowe Adrienne Godfrey Debbie Jackson	20%
Technical Representatives	Ensures that the technical deliverables of the project are consistent with the overall technical strategy of the corporation. Allocates technical resources to the project team.	Don Bailey Earl Dabney	40%
DBA Team Representatives	Allocates DBA resources to the project team.	Rosa Robinson Will Jones Ramzi Salameh	20%
LAN Team Representative	Allocates LAN team resources to the project team.	Steve Hodges Dana Wiggins Art Mitchell Mohammed Khalique	20%

Role	Responsibilities	Resource	Time Req'd
Project/Stage Manager	• Day to day management. • Production of end of stage deliverables. • Reporting and scheduling. • Brings issues to the board.	Pat Cagle Project Manager	70%
Project Team	Do the actual work on the project.	See Chart	50%-100%
Intervening Managers	Receive reports on project activities and progress, especially where their direct report staff is being utilized (however, they do not set project priorities or direction).	Ed Tate Melissa Haynie Lowrey Scarbrough Andy Hollis	<5%
Other			
Project Tracking	Provides over-site of project for DOR. Provides support for Project Manager.	Teresa Hinton Millicent Fuller	15%
QA Review	Accesses quality of project achievements. Provides consultation on strategies to meet project deliverables and their quality thresholds.	Orville Thompson	10%

6.2 Project Organization Chart

The Organization Chart is based on the Project Organization sheet in Para 6.1.



Earl Dabney
Don Bailey
Larry Leonard
Michael Welty
Judith Williams
Ashim Bhaumik
Scott Spurlock
Vendor Technical Resources
Teresa Hinton
Orville Thompson
Art Mitchell
Victoria Maxwell
Rosa Robinson
Ramzi Salameh
Steve Hodges
Jim McLott
William Jones
Dana Wiggins
Jeff Deason
Cynthia Tillis
Brian Redmond
Ilarae Erdmann
Mohammed Khalique

Project Budget

The project budget estimates include all known related expenditures for the project including all project personnel, hardware and software for the coming fiscal year.

Estimated Costs Summary						
Category	**By Quarter (Rough Estimate)**					**Total**
	Quarter 1	**Quarter 2**	**Quarter 3**	**Quarter 4**	**Beyond**	
Project Team Summary	$ 0	$21,566.40	$ 18,748.34	$ 112,874.48	$833,879.54	$ 987,068.76
State Employee	$ 0	$8,469.60	$ 6,534.14	$ 42,582.58	$194,709.03	$ 252,295.35
State Contractor	$ 0	$13,096.80	$ 12,214.20	$ 70,291.90	$639,170.51	$ 734,773.41
Vendor Contractor	$ 0	$ 0	$ 0	$ 20,000.00	$ 30,000.00	$ 50,000.00
Hardware	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Software	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Processing Charges	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Other 1. Storage Expansion Hardware and Software	$ 0	$ 0	$ 0	$ 823,000.00	$ 0	$ 823,000.00
2.	$ 0	$ 0	$ 0	$ 0	$ 0	$ 0
Training	$ 0	$ 0	$ 0	$ 90,000.00	$ 0	$ 90,000.00
Trackers	$ 0	$2,156.64	$ 1,874.83	$ 11,287.49	$ 83,387.95	$ 98,706.91
TOTAL	$ 0	$23,723.04	$ 20,623.17	$ 1,057,161.97	$947,267.49	$2,048,775.67

APPENDIX A - CONTROL PROCEDURES

Quality Standards

See the Quality Assurance Plan found in the Georgia Department of Revenue Information Systems Division Process Improvement Initiative Software Quality Assurance Plan Version 1.00.05 2/19/02. The path of the shared drive is:
S:\Process Mgmt Rpt\Quality Assurance Reviews\Overall Plan and Generic Deliverables.

Quality Control Procedures

See the Quality Assurance Plan found in the Georgia Department of Revenue Information Systems Division Process Improvement Initiative Software Quality Assurance Plan Version 1.00.05 2/19/02. The path of the shared drive is:
S:\Process Mgmt Rpt\Quality Assurance Reviews\Overall Plan and Generic Deliverables.

Progress/Process Control Procedures

See the Quality Assurance Plan found in the Georgia Department of Revenue Information Systems Division Process Improvement Initiative Software Quality Assurance Plan Version 1.00.05 2/19/02. The path of the shared drive is:
S:\Process Mgmt Rpt\Quality Assurance Reviews\Overall Plan and Generic Deliverables.

Communication Procedures

The FileNET Upgrade team will have set procedures in place to communicate with the FileNET Project Board and the Project Stakeholders. These procedures include the following:

- The FileNET Upgrade project manager will meet with the project board and intervening managers every Tuesday morning at 8:30 AM to review the status of the FileNET Upgrade project.
- The FileNET Upgrade project manager will collect status from the team informally and report status and issues using the process defined by the ISD Process Management Group (PMG). These status reports will be distributed by the PMG to all of the project stakeholders.
- The FileNET Upgrade team will communicate issues using the process to be defined in the Project's *Issue Resolution Procedures* document.
- At the discretion of the project manager, Ilarae Erdmann and/or Melissa Haynie may be copied on emails to PMG members and ISD interfacing teams. This is to insure that they are aware of potential issues regarding process and resource allocation.
- At the discretion of the project manager, Ilarae Erdmann, Kim Moore, Dick Hon, and/or Lannie Greene will be copied on emails to DOR employees outside of ISD, and on emails to ISD employees regarding topics that will ultimately require input from the business end-users.

Change Control Procedures

To be developed as part of the Configuration Management Plan.

Issue Resolution Procedures

To be developed as part of the Risk Management Plan.

Project Control Procedures

The Project Management Review Team in place as a part of the project tracking procedures provides project control procedures.

Appendix B - TRAINING PLAN

- Document and publish proposed system changes (to be done in Design Phase).
- Provide user documentation for changes made to allow new feature/functionality. (This will occur during the Development Phase).
- Provide screen shots of changed screens in the system (during Testing Phase).
- Provide UAT environment to train key personnel who will in turn train other users.
- Identify key users to be trained.
- Train key users using the UAT environment (Training of key users will be done by the Business Analysts).

Appendix C: Schedules

MS Project Schedule attached.

Appendix D: FileNET Responses to GTA:

In the December 26, 2001 letter from Larry Singer regarding the FileNET Upgrade Project (GTA Tracking Number G01442), GTA requested that DOR meet the following stipulations:

1. GTA asks, "An investigation of alternatives to the FileNET Upgrade needs to be completed due to the extensive customization of code that is required by FileNET." It continues, stating that the analysis must be reviewed and approved by the GTA Office of Technology prior to proceeding with the project with Jody Chambers facilitating this review.

   DOR's response to this request begins on Page 20 in the section titled "Department of Revenue use of the FileNET Software".

2. GTA asks, "The proposed storage expansion hardware and software must be modified so that the procurement meets only the required storage necessary for the upcoming tax-processing season." It continues, stating that the analysis must be reviewed and approved by the Information Resource Management Division of GTA, prior to proceeding with the project with Derrick Wheeler facilitating the review.

   DOR's response to this request begins on Page 27 in the section titled "Department of Revenue Storage Expansion Needs for 2002."

3. GTA asks, "All purchases of the storage expansion hardware and software must be competitively procured".

   DOR expected to and will meet this stipulation with any approved purchases.

4. GTA asks, "A detailed project plan must be presented, reviewed, and signed by the GTA Program Management Office within 30 days of the beginning of the project."

   DOR will meet this stipulation with the submission of the DOR Project Initiation Document (which includes a detailed project plan) for this project, which will be sent to Peggy Joyner and Bonnie Manns within 30 days of approval of the project.

Department of Revenue use of the FileNET Software

There is a misunderstanding about the nature of the "Customization" that was done to create the Revenue Document Management System. Absolutely NO FileNET code was modified in creating this system. In fact, **the Department does not have copies of the source code for the FileNET software**; we only have the executable software modules required for operation of the system.

Within the FileNET-supplied executable software modules are "user exit and entry points" that allow the use of the product to add functionality. These "exit and entry points" were utilized to add DOR specific modules that are not offered by FileNET (or any other off-the-shelf imaging vendor) for DOR required functionality. All of the modules added by DOR enhance the Document Management System; they do not duplicate or replace any native FileNET capabilities.

No software package currently in the marketplace does any of the functions explained in the enhancements below, so moving to a different imaging solution will only be more costly, since a conversion effort would have to be undertaken and these functions would have to be created in the new software environment. At a conservative estimate, replacement of FileNET would cost several times more money than doing this upgrade. The conversion effort to move 4.2 - 4.6 terra-bytes of data to a new platform would be very expensive and time consuming. In fact, a replacement project could not be completed before the Department would encounter severe operational problems, since the only optical disk supported on the current system is no longer manufactured or sold. **It is much more efficient to continue on the upgrade path with a proven and paid for system, rather than duplicating the effort invested in this system by replacing it.**

The following custom enhancement modules were required for DOR to complete a true Document Management System for the Revenue environment. The explanation of each module provides details of the work that module does and continues with why this work was necessary for DOR operations. Finally there is a discussion of what work is required for the FileNET Upgrade Project.

1. **Module Name: CD Conversion**

   Purpose:

   This software module was developed to handle the loading of images that had been previously stored on CDs. The module was used to load all the data from CDs into the FileNET image repository. This process was completed in November of 2000 and the software module has not been used since. This software is being kept for historical purposes, but will not be used again unless some new need is identified which could use this module as a basis.

   Market Availability:

NO out-of-the-box product duplicates this functionality because of the unique document locator number key that DOR requires for retrieval of documents. This key is critical in order to match the Document Locator Numbers in our tax processing systems.

Work required for the Upgrade Project:

None, since the conversion is completed this software is not currently in use. Copies of the software will be maintained in static form for code re-use, if required at a later date.

2. **Sub-System Name: Custom Retrieval**

Purpose:

This software represents a small sub-system, consisting of two modules. The first module (called the "retrieval screen module") provides a friendly image retrieval screen that verifies the requestor in the DOR Security database and uses a DOR index structure to find the FileNET key to retrieve the image from FileNET. The module then turns processing over to the standard FileNET Image retrieval module using the appropriate FileNET entry point. The second custom module (called the "audit logging module") picks up the transaction from the standard FileNET retrieval modules and logs the access into a DOR audit table in order to comply with IRS audit standards and presents the data to the requestors' screen.

This enhancement development effort was undertaken to comply with both DOR Security standards and more critically to comply with IRS Audit standards, since a large portion of the DOR Image Repository includes images of federal tax documents.

Market Availability:

No vendor investigated during the software selection process, including FileNET, could meet both DOR Security and IRS Audit standards requirements of the Document Management System. Members of the DMS team continue to monitor the marketplace and AIIM new product release documentation to insure that the DOR-DMS solution is using current technology. To date, no software product currently in the marketplace for imaging can meet these requirements with their out-of-the-box software product.

Work required for the Upgrade Project:

Minor modifications to the code may be required because of minor changes in the FileNET database structures. Then the "Custom Retrieval" modules must be tested with the new FileNET release. This will insure that the "entry point" into FileNET for the screen module has not changed and then it will insure that the "exit point" from the FileNET standard retrieval module cleanly returns to the audit logging module to complete the transaction and display the retrieved image on the screen. From reading the documentation for the new release, there does not appear to be a problem with the code entry and exit points, but testing is critical to insure these modules work together seamlessly with the new FileNET's standard retrieval module without degradation of response time for retrieval.

3. **Module Name: Auto Print Retrieval**

Purpose:

Many of DOR's applications are mainframe based. The CTA and MailCash systems, which provide information about a transaction's document locator number (DLN), are two of them. Because many users are on the mainframe looking up information about the document they want to see the image for, there is a CICS screen that allows these users to request an image be retrieved and sent to them. With retrieval centralized in the IAD retrieval unit, this DMS program is used to print a hardcopy list (sorted by requestor) of documents to be retrieved. Before FileNET, the clerk found these documents manually on microfilm or CD, printed copies of the documents and sent them to the requestor.

With the implementation of the FileNET system, instead of printing the list, IAD asked that the information on the list be sent in an interface "batch" for overnight look-up and printing of the images from the FileNET system. Thus the "Auto-Print" module was created. This module merely takes the information from the mainframe interface file, retrieves the image and prints them in batches for each requestor. It is a batch module that runs overnight, so the IAD Retrieval Unit only has to take the image batches off the printer in the morning and send them to the requestors. Auto-Print Retrieval handles about 65% of all retrieval done in DOR and has allowed the IAD Retrieval Unit to reduce staff by 5 individuals.

Market Availability:

No software product currently in the marketplace for imaging has a mainframe interface for retrieval to meet this requirement in their out-of-the-box software product.

Work required for the Upgrade Project:

Minor modifications to the code may be required because of minor changes in the FileNET database structures. This module must be tested with the new FileNET release to insure that the "entry point" into FileNET standard retrieval module cleanly returns the image, returns to the audit logging module to complete the transaction posting, and then it sends the print back to the IAD Retrieval Unit printer. From reading the documentation for the new release, there does not appear to be a problem with the code entry and exit points, but testing is critical to insure these modules work together seamlessly with the new FileNET's standard retrieval module.

4. **Sub-System Name: Quality Control**

Purpose:

Several critical functions to any image production operational environment include the control of the imaging process and eventual destruction of the paper documents that have been imaged. Without these functions the Department could not be sure everything was correctly processed and would be inundated with paper that would have to be kept for many years. To handle this the DMS team created three functions:

A. **Module Name: Reconciliation**

Purpose:

A balancing process had to be created to compare the batches stored by FileNET in the Document Management System with both the data that was sent for the IBML Scanners and recorded in the Mail Cash System. The batches of image data sent from the scanners should exactly match the batch data in DMS and Mail Cash. If it doesn't the discrepancies must be reconciled until a match is reached.

The Reconciliation Module takes batch data from the IBML SQL Server database and the batch data from the DMS oracle database to the mainframe to compare that information with the financial transaction data from the Mail Cash DB2 tables. The information from all three systems MUST agree. The IAD Scanner Control Unit prints listings of any discrepancies found by the Reconcilement module for research and correction of the data.

Market Availability:

No software product currently in the marketplace for imaging has built-in balancing mechanisms to meet this type of balancing requirement.

Work required for the Upgrade Project:

Minor modifications to the code may be required because of minor changes in the FileNET database structures. The Reconcilement Sub-System is independent of FileNET except for using the databases. From reading the documentation for the new release, there do not appear to be any substantive changes to the FileNET Oracle tables. Only testing is required to prove the Reconcilement Sub-System will continue to function in the same way that it currently does.

B. **Module Name: Image Quality Review**

Purpose:

Before the Department could start to destroy the paper documents, the DMS Operations staff had to be sure that the images of those documents were of high enough quality to meet legal standards. IAD insisted that DMS must provide a way for their staff to do a quality review of scanned documents ***by sight***. They required that this review use established sampling methods based on agreements they had in place with the Tax

Processing Divisions to be sure that images were of good enough quality to be used in litigation.

Therefore, an Image Quality Review process was created to allow DMS Operations to verify the quality and legibility of stored images based on their Quality Agreements and control to the Image Quality Review process. So for example, the Image Quality Assurance Unit looks at every 4th document in a Sales Tax batch, but only sees every 6th document in a Corporate Income Tax batch. If a document is not of acceptable quality, the Image Quality Assurance Unit can decide to look at every document in a specific batch, send one document for rescanning, or send the whole batch for rescanning, if the quality is not acceptable. Rescan functionality is provided in the FileNET software, so no additional programming was required beyond the Image Quality Review module.

Market Availability:

No software product currently in the marketplace for imaging has a "slide show" module in their out-of-the-box software product that would allow IAD staff to actually view documents in order to meet this requirement. Quality review in all of the Imaging packages reviewed when FileNET was chosen and market analysis of new Imaging products since then, have not found a vendor that offers this feature in their standard software. Imaging vendors use automated quality modules to test the overall quality of the images in a batch, but none of these modules could guarantee that each document was of good quality and IAD insisted on this level of quality review.

Work required for the Upgrade Project:

Minor modifications to the code may be required because of minor changes in the FileNET database structures. The Image Quality Assurance sub-system is independent of FileNET, except for using the standard FileNET retrieval module to present the images in the "slide show" format and the DMS & FileNET databases to control the process. From reading the documentation for the new release, there does not appear to be a problem with the code entry and exit points of the new FileNET's standard retrieval module, but only testing will prove this.

C. **Module Name: DMS Control Reports**

Purpose:

Before the Department could start to destroy the paper documents, the DMS Operations staff had to be sure that:

1) all the documents were accounted for that should have been in DMS,
2) that the images of those documents were of high enough quality to meet legal standards,
3) that rescanning of all sub-standard documents was completed.

To provide this control, a number of modules had to be created to provide DMS Operations staff with repeatable and reusable control reports.

Market Availability:

Since these reports were unique to requirements of Revenue's Document Management System, a report generator was used to create standard reports.

Work required for the Upgrade Project:

The DMS Control Reports are independent of FileNET except for the use of the FileNET databases. Minor modifications to the code may be required because of minor changes in the FileNET database structures. Each report will need to be updated for the new database structures and then tested to prove it continues to work correctly.

In conclusion, only the four enhancements were made to the Document Management System to satisfy requirements specific to the Department of Revenue's needs in a DOR Document Management System. NO FileNET code was modified in creating this system, and in fact the Department does not have source code for the FileNET modules; we only have the executable software modules required for operation of the system.

No software package currently in the marketplace does any of the functions explained in the enhancements above, so moving to a different imaging solution will only be more costly, since a conversion effort would have to be undertaken and these functions would have to be created in the new software. At a conservative effort, replacement of FileNET would cost several times more money than doing this upgrade. The conversion effort to move 4.2 - 4.6 terra-bytes of data to a new platform would be very expensive and time consuming. In fact, a replacement project could not be completed before the Department would encounter severe operational problems, since the only optical disk supported on the current system is no longer manufactured or sold. **It is much more efficient to continue on the upgrade path with a proven and paid for system, rather than duplicating the effort invested in this system by replacing it.**

The FileNET 3.6 upgrade is a significant technical release, but it does not include any significantly enhanced "user functionality". It provides a number of new operational and maintenance features that will aid the DMS Operations and ISD-DMS Support staff in better controlling the system, since these features make the software operation faster and the system easier to maintain than the current version. These include:

1. Release 3.6 offers customers the cost saving ability to run the newest Oracle database release on a separate application server instead of the FileNET Root/Index server. This will reduce the cost and complexity of Oracle Maintenance, since the current version of FileNET runs on an obsolete and no longer supported version of Oracle and requires separate backup/recovery streams.
2. Release 3.6 offers ISD control of cache retention parameters, which includes 1) after scanning, 2) after retrieval and 3) after pre-fetching sub-divisions. This will allow optimization of cache performance for our operation, particularly useful for making the Image Quality Review process run more quickly.

3. Release 3.6 has restructured storage to provide for hierarchical storage management, which speeds retrieval by staging data on high-speed magnetic disk and this now dedicated file system maximizes throughput, while avoiding disk contention. This will allow us to provide a 10-15% throughput enhancement during operation of the HPII High-Speed Storage module during peak operating season and will help in all retrieval functions.
4. Release 3.6 has provided for additional optical hardware optimization including support for the latest optical storage platforms in the marketplace. The software will allow large objects to reside in contiguous disk space to minimize disk head movement making disk response time quicker. In addition, separate queues are established for each optical surface and an intelligent robotic scheduler selects disks based on the number of requests and their time outstanding. This means that automatic placement of frequently accessed disks closest to the drives minimizes optical platter swap time. These are significant improvements to the current release and should speed retrieval of images. DOR's images currently reside on 4.2 terra-bytes worth of optical platters and that storage will grow to nearly 5 terra-bytes by the end of 2002.
5. Release 3.6 simplifies system administration with a new set of powerful tools that minimize down time and give administrators flexible control. Database tables are automatically generated. Online and unattended enterprise backup functions are provided, as are incremental backups and data compression. All of these features will make it easier for ISD to control the system, especially during peak season operations.
6. Release 3.6 provides for the use of SNMP network management tools, which will assist DOR LAN and GTA staff in control of the application over the network.
7. Release 3.6 enhances the system by providing enhanced data protection and redundancy features. This means that interrupted transactions are automatically restored to a valid state via extensive use of new "rollback logs". The automatic write feature to one or more backup optical disks or multiple systems has also been significantly enhanced. These enhancements mean that the data will be more secure, automatically recovering from potential hardware or network failures. This will simplify DOR-ISD's control processes for insuring that the DMS data is stored at both the Tradeport and Century Center locations correctly the first time it is tried.

FileNET Storage Expansion Needs for 2002

As explained in the original request provided for the FileNET Upgrade Project, the Department's Document Management System utilizes an EMC Symmetrix high-speed disk system. The original project request proposed a storage expansion in disk capacity for that unit that would have filled the hardware to it's maximum capacity and that expansion would have provided capacity for DMS through the 2004-processing year. Looking only at the disk requirements for the 2002-processing year, an expansion of the EMC Symmetrix disk capacity is not required.

However, looking at the new requirements of the FileNET 3.6 software release, the Department must expand the EMC Symmetrix's connectivity to add additional servers in order to utilize the upgrade features needed for the 2002-processing year. To connect additional servers, the Department must purchase switches, cables, and switch control software as well as implementation services for these items. With the expansion in server connectivity, which will require reconfiguring the disk into a number of new partitions, there are additional EMC software products that are required for operational control to manage this reconfigured capacity. The following are reasons why the addition of connectivity capacity to the EMC Symmetrix is necessary:

- Additional connectivity is needed to connect the multiple FileNET test environments to the EMC Symmetrix. The current FileNET test system is not set up to replicate the production environment with data stored on the EMC. This must be done in order to test the FileNET upgrade before going into production. Without this connectivity DOR will not be able to test and implement the FileNET upgrade. Testing cannot be done on the production system.
- Additional connectivity to the EMC Symmetrix is needed to be able to move the services off the Root/Index FileNET server and provide increased performance for that server. This server is where the application runs that takes images in from their entry points and then routes them to the FileNET application for storage and reconciliation. Additional storage capacity for this function would increase performance.
- The fiber channel connectivity and faster disk I-O on the EMC will enable better throughput for these new services.

An EMC reseller has estimated a cost of $823,000 for this limited upgrade. If given the approval to proceed, DOR will bid out this procurement in accordance with GTA guidelines.

APPENDIX B

Project Initiation Document – Integrated Claims Management System

State Board of Workers' Compensation

Project Overview

Project Name

Integrated Claims Management System

Project Description

The primary objective of this project is to implement a stable, state-of-the-industry, fully integrated claims management solution capable of supporting SBWC's mission well into the 21st century and replacing the current manual, paper process. The Integrated Claims Management System (ICMS) supports the State Board of Workers' Compensation (SBWC) mission, vision, and goals.

The ICMS will be a web-enabled system that will run in an Intranet / Internet / Extranet environment. The new solution will enable SBWC staff to perform all duties associated with claims management, alternative dispute resolution, trial, appeals, settlements, rehabilitation, managed care, licensure and quality assurance using the workstations on each desk networked through an agency-wide LAN and the internet.

A fully Integrated Claims Management (ICM) solution is expected to include but not limited to document management (optical imaging and storage), data warehousing, web enabled applications, contact management, automated notification, work flow management, statistical reporting, business process and organizational changes, as well as all computer hardware and software necessary, to support SBWC's requirements. This includes all necessary documentation and training in processes and software.

- The entire architecture will be ***J2EE architecture*** according the state's standards.

  ICMS applications consist of several tiers. Tiers are primarily abstractions to help us understand the architecture. Following the Java 2 Enterprise Edition (J2EE), architecture, a popular development platform for distributed enterprise applications, the J2EE architecture usually involves four distinct tiers, as shown in Figure 1.

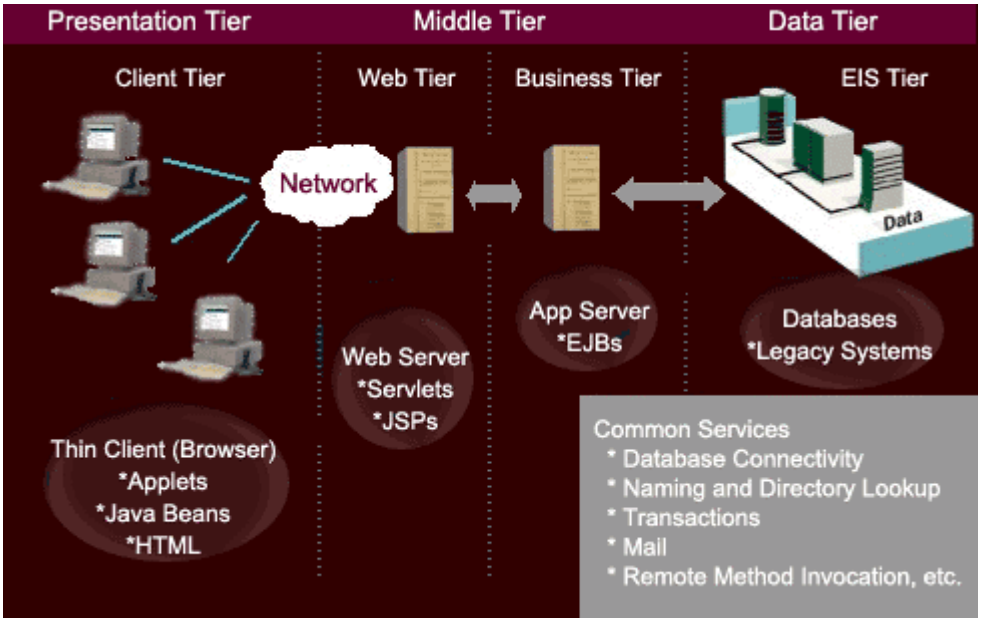


Figure 1: Multi-Tier Architecture

More precisely, the tiers are distinguished as follows:

The Client Tier -- The Client Tier provides for the interaction between the Web application and the end users, typically through a thin client such as a browser. The technologies involved in this configuration are D/HTML, XML, XSL, Java™ Applet, etc.

A client may also be an "application-based" client that connects to an Enterprise Information System client. Such clients are commonly referred to as think clients.

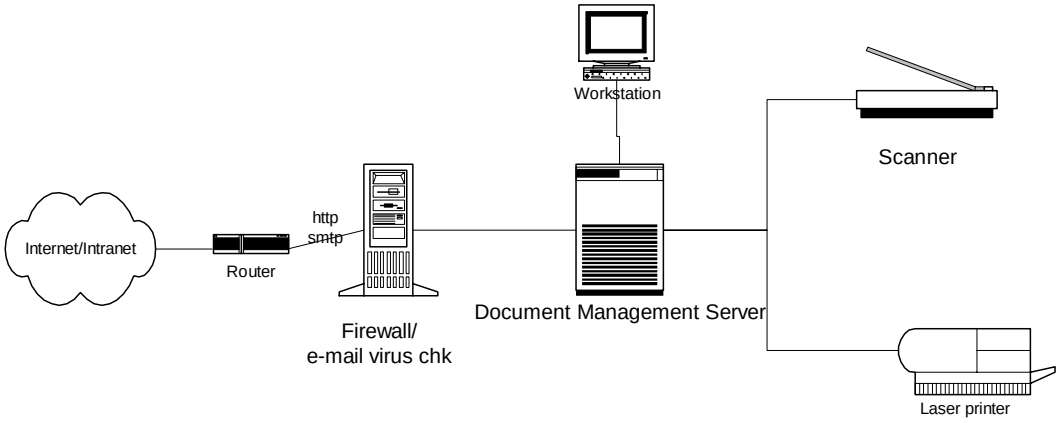
The Web Tier -- The Web Tier is the interface between the end user and the business logic of your application. By separating the presentation logic from the business logic in this fashion, we can update the look and feel of our application without any modification to the business logic itself. This also allows us to have a throw-away facade that lets you stay in sync with the latest Internet technologies. At this level, we typically find the JSPs (Java Server Pages) and Java Servlets technologies, as well as use of XML, XSL, HTML, DHTML, GIF images, JPEG images, etc.

The Business Tier -- This is where we implement the business logic, that is, the actions that make up this application. These actions are encapsulated within components called Enterprise JavaBeans (EJBs). By far the most popular technology of the J2EE family, the Enterprise JavaBeans architecture brings to this application all the system-level services it might require, such as transactions, security, persistence, or multi-threading. These aspects of EJBs are handled by the EJB container, which we will discuss shortly.

The EIS Tier – The Enterprise Information System (EIS) tier, provides persistent storage for the resources required by this application.

Although ICMS application does not have to have all these tiers as independent entities, it helps to conceptualize an application component as belonging to a specific tier.

- ***Optical Imaging/Storage*** will contain all data related to claims (including but limited to scanned documents, judicial rulings, actions and settlements), as well as rehabilitation supplier and managed care organization applications and renewals. The system will track using unique indexing, eliminating the use of a social security numbers, and include date and time stamping for check-in and checkout processes. This common intake and storage process will use OCR, ICR and barcode, storage media and SANs (storage area networks) technologies. The system will support electronic file and fetch or electronic file cabinet components, folder and sub-folder strategies, load images and indices, and online storage. An example document management diagram can be seen below:



- ***Workflow Management***, as part of the imaging solution, will also provide bar code capability, enabling the addition of bar codes for input as well as newly generated output and the OCR/ICR capability to read the bar codes. These capabilities will be integrated with workflow management capabilities and work queues, thus eliminating historically manual efforts to identify the responding claims party and enter the data.

- ***Contact Management/Claims Assistance*** will allow authorized users easy access to all pertinent information as well as the ability to update. This capability will provide an automatic update to the contact database and records and accommodate user-entered, free form, notes. Additionally, any information pertaining to the contact will be automatically linked to the system and be viewable by the user supporting inquiries.

- ***Data Warehousing*** will be a resource of data available for query with appropriate user-friendly tools for executing ad hoc queries and reports.

- ***Web Applications*** will include a highly secure environment accessible by authorized SBWC personnel, workers' compensation claims parties, Subsequent Injury Trust Fund (SITF), Guarantee Trust Fund (GTF), rehabilitation suppliers and managed care organizations. The application will allow users access to claims files, rehabilitation and managed care information. The portal will include a calendar of scheduled hearings dates, actions, settlements and results of files, and incorporate an internal tickler system of incoming actions needed to be taken. In addition, Board Forms for submission of workers' compensation claims, rehabilitation supplier registration, renewals and plans and managed care organization applications will be interactive as well as downloadable. Finally, the portal would tie the Georgia Online Network together with the entire claims management system providing a single point of entry for all authorized users.

- ***Statistical Reporting*** will include a full, robust statistical analysis and reporting system with the ability to maintain a host of historical information.
- ***Automated notification*** will be implemented for standard letters, orders, awards, notifications and general correspondence maintained as word processing template documents. These notifications will automatically be invoked when a user completes a task merging the notification with the necessary database information. The notification will be viewable, modifiable and printable.
- The ***data center*** at SBWC will be expanded to accommodate the installation of new hardware, and have the necessary air conditioning, power, sensor and fire suppression requirements.
- A ***disaster recovery*** plan will be implemented to avert interruptions of service, assist in accomplishing degraded-mode information process activities, and assist in an orderly return to production mode.
- ***Training*** will encompass SBWC users, managers, operations staff, and IT staff encompassing platforms, applications, and environments according to the needs of the identified personnel and will be implemented in a phased approach. Topics will include but will not be limited to the system's development methodology, end-user functional capabilities, procedures, administration, maintenance, troubleshooting, documentation use, operations, all applications, query language, and report writer products)
- The ***hardware requirements*** includes but is not limited to installation, sizing and performance, LAN and desktop PC's, UPS, surge protectors, and miscellaneous equipment, laser printers, post processing equipment, security controls, new releases/versions, warranties, regulatory changes, implementation of new modules/functionality, special conditions, support, development, testing and training environments as well as data conversion and bridging and CCOP requirements.
- The ***software requirements*** includes but is not limited to the operating system, networking, network management, database management, commodity, application, and operation software as well as system software, development, distribution agents, programmer/productivity, change management/version control tools and support.

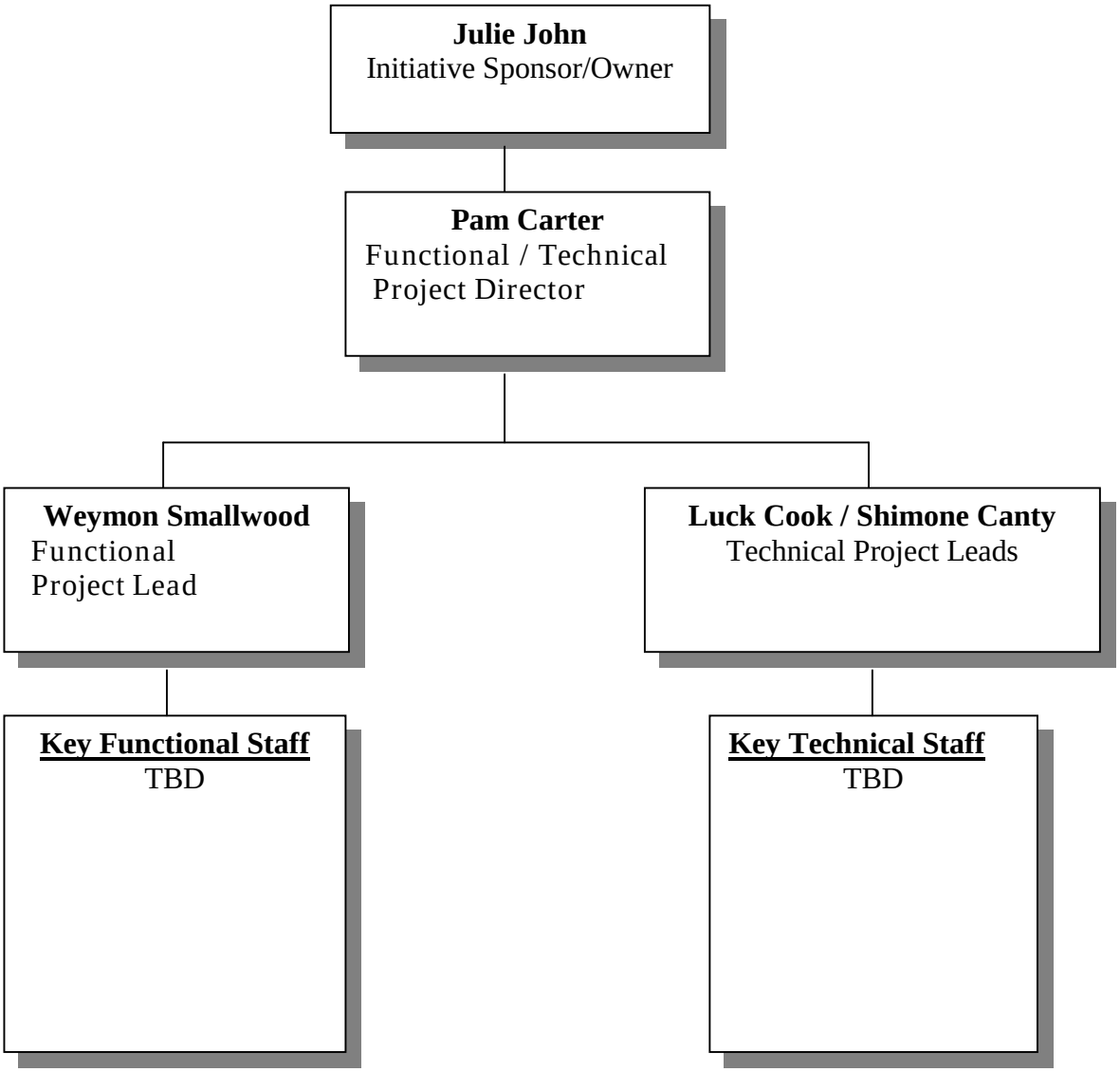
Project Benefits /Values

The overall goal of the project is to improve productivity, responsiveness, flexibility, functionality, effectiveness, as well as increase security and accuracy of data while minimizing operating expenses and staff growth rate. The ability to handle future plan changes and membership growth with a minimum of expense and effort is also required of the new system. Additionally, this project will have the largest impact to users and is a prerequisite for future projects to be successful.

Additional objectives to be served by this procurement include:

- Improved service levels to SBWC constituents.
- Improved system workflow and increased work efficiency.
- Improved accuracy of all information collected, maintained, and provided by SBWC.
- Improved timeliness and accuracy of responses to inquiries.
- Inclusion of any proven new technologies that can provide cost-effective benefits to SBWC's constituents.

Project Organization


Julie John
Initiative Sponsor/Owner
Pam Carter
Functional / Technical
Project Director
Weymon Smallwood
Functional
Project Lead
Luck Cook / Shimone Canty
Technical Project Leads
Key Functional Staff
TBD
Key Technical Staff
TBD

System Users and Types

QUANTITY OF USERS	USER TYPE
9	Data Processing Managers, Administrative Support, Telephone Operators, Data Entry Clerks
27	Claims Processing (Mailroom, Fileroom, Correspondence, Record Center, Claims Management) Managers, Administrative Support, Telephone Operators, Data Entry Clerks
49	Legal – Trial Managers, Administrative Support, Telephone Operators, Data Entry Clerks
14	Legal – ADR Managers, Administrative Support, Telephone Operators, Data Entry Clerks
14	Appeals Managers, Administrative Support, Telephone Operators, Field Agents, Auditors, Data Entry Clerks
6	Settlements Managers, Administrative Support, Telephone Operators, Data Entry Clerks
4	Rehabilitation Managers, Administrative Support, Telephone Operators, Data Entry Clerks
4	Managed Care Managers, Administrative Support, Telephone Operators, Data Entry Clerks
6	Licensure Managers, Administrative Support, Telephone Operators, Data Entry Clerks
4	Quality Assurance Managers, Administrative Support, Telephone Operators, Data Entry Clerks
14	Fraud / Compliance Managers, Administrative Support, Telephone Operators, Data Entry Clerks

Communities of Interest

- State of Georgia Employees
- State of Georgia Employers
- Claimant Attorneys

- Court Reporting Agencies
- Subsequent Injury Trust Fund
- Guarantee Trust Fund
- Insurers and Self-Insurers
- Rehabilitation Suppliers
- Managed Care Organizations
- Georgia State Agencies (GTA / DOAS)

Scope Management Plan

A Scope Management Plan ensures that each project includes all required work, and only the required work for successful project completion. Project scope will be addressed in the Project Initiation Plan with as much detail as is known, including preliminary schedule and cost. The customer representative will sign the PID to acknowledge the project scope, schedule, and cost. Scope will be baselined in the Software Requirements Specification or Functional Specification. Once baseline at the Requirements Review, changes in scope will be reviewed by a Configuration Control Board (CCB), and when a change in scope causes increase in schedule and cost, the project sponsor will certify that money is available to cover increased cost.

Changes will be entered and controlled in PVCS Tracker for both mainframe and client server systems. Configuration management and version control of mainframe systems will be accomplished using the Changeman CM tool; similarly for client server systems, we will utilize PVCS Version Manager. Configuration control using these tools will follow a set of standard change management procedures. These procedures, and those for the establishment and management of the Configuration Control Board, will be standardized as part of a Configuration Management Plan to be developed in the Process Management Group and tailored as needed for each project.

Project Schedule

PROJECT TIMELINE				
MILESTONE	**ORIGINAL**		**ACTUAL**	
	START DATE	**END DATE**	**START DATE**	**END DATE**
Initiation Phase	05/06/02	07/05/02		
Phase 1 (Claims Processing, Data Processing, Quality Assurance)	**07/15/02**	**04/22/03**		
Requirements Phase	07/15/02	10/18/02		
Functional Design/Technical Design	10/07/02	01/10/03		

Coding/Unit Testing	12/09/02	02/07/03		
System Testing	02/10/03	03/14/03		
UAT Testing	03/17/03	04/18/03		
Implementation	04/21/03	04/22/03		
Phase 2 (All other division except Field Offices)	**10/21/02**	**07/22/03**		
Requirements Phase	10/21/02	12/20/02		
Functional Design/Technical Design	01/13/03	03/14/03		
Coding/Unit Testing	04/21/03	06/20/03		
System Testing	06/23/03	07/25/03		
UAT Testing	07/28/03	08/01/03		
Implementation	08/04/03	08/05/03		
Phase 3 (Field Offices)	**12/23/02**	**09/30/03**		
Requirements Phase	12/23/02	01/24/03		
Functional Design/Technical Design	03/17/03	04/18/03		
Coding/Unit Testing	08/04/03	09/05/03		
System Testing	09/01/03	09/12/03		
UAT Testing	09/15/03	09/26/03		
Implementation	09/29/03	09/30/03		

Technical Description

Application Number		1	2	3	4
2.10	**Application Name**	ICMS			
2.20	**Primary Application Support Person:** (Name, Mailing address, Phone number, E-mail address)	Pam Carter 270 Peachtree Street NE Atlanta, Georgia 30303 Phone - (404) 656-3815 CarterP@sbwc.state.ga.us			
2.30	**Do you anticipate using any of the following application types:**				
	CRM				
	Content Management	X			
	Document Management	X			
	Business Automation/Transaction	X			
	Web Application	X			
	Data Warehouse	X			
	Enterprise Information System (EIS)	X			
	Decision Support System	X			
	Other – Workflow Management	X			
	Other – Statistical Reporting	X			
	Other – Business Process & Organizational Changes	X			
	Other – Notification System	X			
2.40	**How Application Acquired ?**				
	Developed Application In-house				
	Purchased Application	X			
2.50	**Go Live Date**	01/27/03			
2.60	**Expected Life in Years** (Expected lifecycle of each application)	5-7 years			
2.70	**Interface with Other Agencies to this application.**				
2.80	**Names of Interfaced Systems to this application.**	NCCI, UA55, Lexus Nexis			
2.90	**What Information is Interfaced to this application?**	Claims Data, Rehabilitation Data, Managed Care Data, GSA Data			

Project Status

Current Project Status

Funding approval to move forward with project initiative

Timeline Begin Date and End Date

TIMELINE	
BEGIN DATE:	05/03/02
END DATE:	09/30/03

DELIVERABLES	
1.	RFP
2.	PID
3.	Project Plan
4.	Requirements Documentation
5.	Functional / Technical Design Documents
6.	Test Scripts, Reports
7.	Signoffs
8.	System in Production

Budget Estimates for Planning Purposes

Planning Cost Estimates - Detailed budgets and schedules must be completed prior to final approval of this initiative.

Budget Categories	Total Cost	FY 2002	FY 2003	FY 2004
Personnel (Internal)	**196,579.40**	10,731.60	149,207.00	$ 36,100.80
Regular Operating Expenses (supplies / materials)				
Equipment (hardware, software, computer supplies)	**579,863.50**		$ 527,149.00	52,714.00
Contracts (External Personnel)	**2,166,972.00**		1,969,975.00	196,997.00
Computer Charges (DOAS)	**161,200.00**		**131,000.00**	**$ 31,200.00**
Telecommunications				
Other				
Total	**3,105,074.90**	**10,731.60**	**2,777,331.00**	**317,012.30**